1907
6
I

The late **SIR ANDREW CLARK,** P.R.C.P., in a lecture on "The Treatment of Fibroid Lung Disease," given at the London Hospital, Session 1892–3, said :—

"I have said that these Fibroid cases are poor creatures, thin and white, and have what may be called nutritive debility, and the question is: What am I to do with them? You cannot do better than endeavour to make the patient walk in the way of physiological righteousness. But that sometimes will not do. Some people may be physiologically well-behaved, and somehow they do not thrive on it. Can you do anything in those cases? There are two remedies which sometimes do succeed where the ordinary diet will not succeed in nourishing the patient. The one is Cod Liver Oil and Malt given with food—a preparation called Bynol—and the other is the remedy called Bynin Emulsion, consisting of Hypophosphites, Oil, and Malt; both are prepared by Messrs. Allen & Hanburys. These are two good nutritive agents in promoting nutrition."

(See also THE LANCET, *January 6th*, 1894, *p.* 3, *and January 20th*, *p.* 188.)

Bynol
The "Perfected" Malt and Oil.

Is a most intimate mixture (or so-called *Solution*) of COD LIVER OIL with ALLEN AND HANBURYS' MALT EXTRACT, in which the oily flavour is completely disguised. At the same time absorption and assimilation are rendered more certain, partly owing to the extremely fine division of the particles and partly to the presence of Malt, by which the digestive processes are greatly assisted.

The Lancet writes :—"'Bynol' is one of the compounds or solutions of Malt Extract and Cod Liver Oil which are now so deservedly popular. Globules of oil cannot be distinguished. . . . We believe that 'Bynol' will be taken and digested by many who cannot assimilate Cod Liver Oil."

The British Medical Journal writes :—"'Bynol' is a perfect combination of Malt Extract with Cod Liver Oil. . . . It has a pleasant taste, without any suspicion of Cod Liver Oil.

Sold in Wide-mouthed Jars, at 2/- *and* 3/6 *each.* 18/- *and* 32/- *per dozen to the Profession.*

Bynin Emulsion.

Is another extremely agreeable form in which to take Cod Liver Oil, as it resembles raw cream in appearance, and a delicate custard in taste. Absolutely no trace of Oil can be detected by the palate. It possesses a further advantage in that it contains the valuable food substances of our "Mother's Milk (No. 2) Food," together with the valuable digestive properties of Malt Extract; and, lastly, it has a useful tonic action owing to the presence of the Hypophosphites of Lime and Soda. Thus, taking it as a whole, not only is nutriment supplied in an easily digested and very palatable form, but the work of digestion is rendered easier by the presence of diastase, and the nervous system in particular is invigorated by the aid of mineral tonics. The large percentage of Cod Liver Oil present makes this preparation an extremely valuable one to those who are losing flesh, as the arrest of emaciation by its use is generally very marked.

Sold in Capsuled Bottles only, at 1/4, 2/6, 4/9 *and* 9/-. *Or* 12/-, 23/-, 44/-, *and* 80/- *per dozen to the Profession.*

Bynin (Liquid Malt).

Sold in Bottles at 1/9 and 3/- each. 16/- and 27/- per dozen to the Profession.

SUPERSEDES ALL OTHER FORMS OF MALT EXTRACT.

BYNIN is a highly concentrated LIQUID Extract of Malt, free from the troublesome viscidity or treacle-like consistence of the preparation usually met with. It is a valuable article of diet, and is largely prescribed in digestive disorders, and wherever it is desired to improve assimilation, as in the wasting diseases of children, Phthisis, &c. Given with or immediately after a meal, it facilitates the digestion of Farinaceous Foods.

The *Lancet* writes: "An active malt essence. . . . We find that one ounce of Bynin will digest perfectly one pound of starch. This is a most favourable result, and coupled with the fluidity and pleasant flavour renders this preparation a most valuable one."

☛ **One Fluid Ounce of Bynin represents One Ounce by Weight of Allen & Hanburys' Ordinary Thick Malt Extract, which is sold in wide mouthed jars, similar to their Bynol jars at 1/6 & 2/9 ea.**

Byno-Hypophosphites

Is a neutral solution of the **Hypophosphites of Iron, Manganese, Calcium** and **Potassium,** to which are added the **Alkaloids of Cinchona** and **Nux Vomica.** The whole being in combination with **Bynin,** our Liquid Extract of Malt, which obviously provides a more suitable vehicle for the Hypophosphites than the *sugar* syrups.

☛ The Alkaloids are present as they are found in the plants from which they are derived, that is in combination with the natural acids, and in this condition are believed to be more readily assimilable.

Sold in Bottles at (Retail) 2/6 & 4/6 each.
24/- and 41/- per dozen to the Profession.

Byno-Pancreatin

A fluid extract of the ferments and other constituents of the Pancreas in combination with the nutritive and digestive components of Malt. It is especially valuable in peptonizing milk and other foods. Full directions accompany each Bottle.

In Bottles at (Retail) 2/-, 3/6 and 6/6 each.
18/-, 32/- and 58/- per dozen to the Profession.

Byno-Pepsin

This is a solution of Pepsin in combination with "BYNIN" (Liquid Malt). It thus affords, in a highly active and agreeable form, the agents required for the digestion of both animal and farinaceous food. This solution possesses the advantage of preserving its activity unimpaired for long periods.

Sold in 4, 8 and 16 oz. Bottles at (Retail) 2/6, 4/6 & 8/-, or
23/-, 41/- & 72/- per dozen to the Profession.

Coca Bynin

A combination of BYNIN with the active principles of the leaves of Erythroxylon Coca, possessing all the valuable nutritive and diastasic properties of Malt, together with the extraordinarily stimulating and exhilarating effects of the Coca plant. It may be used for the **extemporaneous** preparation of **Coca Wine.** It is very palatable.

In Bottles at (Retail) 2/6. 24/- per dozen to the Profession.

Samples of any of the above will be supplied, on application, to Medical Men resident in Great Britain.

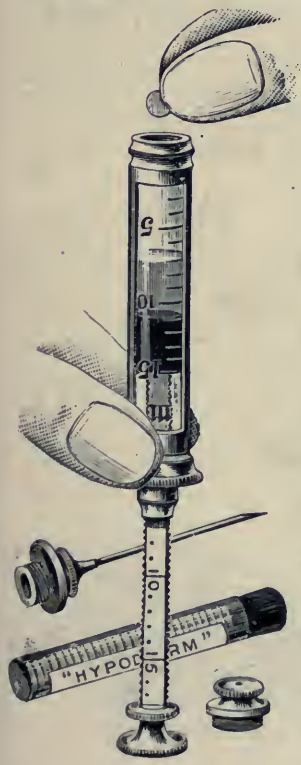
Hypoderms

Is the name ALLEN AND HANBURYS have applied to their **Compressed Tabellæ** of drugs for

HYPODERMIC MEDICATION.

FOR convenience in administering a great variety of drugs by hypodermic injection, our HYPODERMS will be found unsurpassed, and have within the last few months been still further greatly improved. The special properties of each active principle is carefully studied, and the varying degrees of solubility, deliquescence, etc., in each alkaloid or salt is treated individually, in order to secure an excipient in every case equally conducive to its ready solubility and preservation. Hypoderms dissolve in water almost *instantaneously* without the aid of *heat* or trituration. *No pestle and mortar is needed.* The dose is exactly known. The drug is in its purest form. Provided that the Syringe and Needle are kept quite clean, and that distilled water is used, no subcutaneous irritation or inflammation can follow their use. The Drug, being combined with a non-hygroscopic base, preserves its active properties unimpaired for any length of time.

The Lancet writes:—"The following advantages claimed for the 'Hypoderms' are found to be perfectly true—they dissolve easily and rapidly in a minimum of water without the aid of heat or trituration, yielding at once, if preferred, in the syringe itself a uniform solution of the drug; whilst, of still greater import, they contain, according to analysis, the exact amount of active ingredient they are stated to contain." (See rest of article for exact analysis of Hypoderms, June 6th, 1891.)



LIST OF HYPODERMS.

Acidum Sclerotinicum	1-2 gr.
Aconitina	1-200 gr.
Apomorphinæ Hydrochloras	1-30 gr.
Atropinæ Sulphas	1-60, 1-100 gr.
*Caffeinæ Sodio-Salicylas	1-2 gr.
Cocainæ Hydrochloras	1-3, *1-4, *1-2 gr.
Digitalinum	1-100 gr.
{Digitalinum	1-100 gr.
{Morphinæ Sulphas	1-8 gr.
Ergotinla	1-200, 1-100 gr.
Eserinæ Salicylas, *vide* Physostigmina.	
Gelseminæ Hydrochloras	1-50 gr.
Homatropinæ Hydrobromas	1-200 gr.
Hyoscinæ Hydrobromas..	1-200, *1-100 gr.
Hyoseyaminæ Sulphas	1-50 gr.
Hydrargyri Perchloridum	1-20 gr.
Morphinæ Sulphas.. ..	1-8, 1-6, 1-4, 1-3, *1-2 gr.
{Morphinæ Sulphas	1-8 gr.
{Atropinæ Sulphas	1-200 gr.
{Morphinæ Sulphas	1-6 gr.
{Atropinæ Sulphas	1-180 gr.
{Morphinæ Sulphas	1-4 gr.
{Atropinæ Sulphas	1-40 gr.
{Morphinæ Sulphas	1-8 gr.
{Atropinæ Sulphas	1-120 gr.
Morphinæ Tartras	..1-8, 1-4 gr.
Physostigminæ Salicylas	1-100 gr.
Picrotoxinum	1-100 gr.
Pllocarpinæ Hydrochloras	1-10, *1-2 gr.
Quininæ Hydrobromas..	1-2 gr.
Sparteinæ Sulphas	1-2 gr.
Strychninæ Sulphas	1-100, 1-60 gr.

Other strengths and formulæ are frequently added, and can be made to order. *Put up in small tubes containing 20 Hypoderms in each, except those marked with an asterisk, which contain 12, at 1s. each, or 10s. per dozen tubes.*

☞ The Hypoderms may be dissolved in the Syringe itself, ensuring absolute accuracy of dose, and saving of time to the practitioner.

Hypodermic Syringes and Cases in great variety. Any special form not in stock made to order. Fittings altered to suit individual taste.

FULL PRICE LIST ON APPLICATION.

Physicians desiring to prescribe HYPODERMIC TABELLÆ as manufactured by ALLEN & HANBURYS, are requested to use their term "HYPODERM," and to add the initials "A. & H."

Samples of Hypoderms sent post free to medical men on application.

Tabellæ

MANUFACTURED BY

Allen & Hanburys.

THYROIDIN TABELLÆ.

The continued success attending the new line of treatment in Myxœdema, Psoriasis, and allied diseases by Extract of the Thyroid Gland, will doubtless further extend the uses of this valuable therapeutic agent. Since 1891 a sufficient number of patients have been to all appearances so restored to health that it is allowable to believe that they can hardly relapse again. Thyroidin Tabellæ contain the active principles isolated from carefully selected glands, and readily disintegrate when swallowed. *The Medical Press and Circular* writes, 25th October, 1893 :—"These are manufactured with the care and attractive form for which this firm is celebrated, and the results have answered our most sanguine anticipations."

ALLEN & HANBURYS' preparations of Thyroidin were introduced to the medical profession in the advertising columns of *The Lancet*, on February 25th, 1893. Careful study and long experience in the mode of preparation, under the guidance and direction of some of the leading members of the medical profession, have enabled them to produce Thyroidin, *i.e.*, the active principles isolated from carefully selected glands, *minus blood fat and inert tissue which readily decompose*, producing gastric disturbances, vomiting, etc., **and which give to some preparations on the market a most repulsive smell, especially when they have been kept for a short time.**

Three cases of Psoriasis were completely cured by the administration of Tabellæ Thyroidin (Allen & Hanburys').

See *The Lancet*, Jan. 6th, 1894, p. 19, "Five Cases of Skin Disease treated by Thyroid Gland," by J. F. Gordon Dill, Esq., M.A., M.D.

SPARINGLY SOLUBLE DRUGS.

In the earlier days of the manufacture of Compressed Drugs it was abundantly evident that many doses passed unchanged through the system, the mass never being disintegrated. An important improvement in their manufacture was therefore introduced by ALLEN & HANBURYS, and now those drugs, such as *Sulphur*, *Sulphonal*, and others which are insoluble, or almost so, are made up in Tabellæ, which at once disintegrate on coming in contact with moisture.

The Editor, *Braithwaite's Retrospect of Medicine*, January to June, 1893, says :—"We would especially notice the Tabellæ Sulphonal prepared by Messrs. ALLEN & HANBURYS disintegrating process, by means of which the highly insoluble Sulphonal is made readily soluble, and so the inconveniences which not unfrequently arise from its delayed absorption are entirely prevented."

The Journal of Laryngology writes :—"It is this solubility of Messrs. ALLEN & HANBURYS' Compressed Tabellæ which makes them so distinct from other preparations in the market."

NAUSEOUS DRUGS.

In addition to the above improvement, all nauseous drugs are *sugar-coated*. The most fastidious palate can, therefore, find nothing to hinder the use of such bitter, though valuable remedies as *Aloin*, *Cascara*, *Quinine*, etc., in the tabellar form as manufactured by ALLEN AND HANBURYS, as they are swallowed before anything but a sweet taste can be perceived. The centres of these Tabellæ quickly disintegrate, when in contact with the moisture and warmth of the stomach, the pure drug being then put into the best conditions for absorption.

Sugar-coated Cascara Tabellæ.

☛ For List of Formulæ, etc., see next page.

TABELLÆ (Continued from preceding page).

Acidi Arseniosi, gr. 1/100 and 1/50.
Aconiti Tinct., *m.* i.
*Aloin, gr. 1/10, ¼ and ½.
*Aloin Co.
*Aloin Co. c. Cascara.
Ammon. Boratis, gr. v.
Ammon. Brom., gr. v and x.
Ammon. Chlorid., gr. iij. and v.
Ant-Acid.
Antifebrin, gr. iij.
Antim. Tart., gr. 1/20 and 1/16
„ et Ipecac., aa. gr. 1/100.
Antipyrin, gr. v.
Atropin Sulph., gr. 1/100.
Belladonnæ Tinct., *m.* i. and iij.
Bismuth Carb., gr. v.
„ et Zingib.
„ et Sodæ.
„ Sodæ et Zingib.
„ Subnit., gr. v.
Boracis, gr. v.
„ gr. v. et Cocain., 1/20.
Bronchial.
Caffein Citrat., gr. i. and ij.
„ Hydrobrom., gr. ii.
Calcii Sulphid., gr. 1/10, ¼ and ½.
Calomel, gr. 1/10, ¼, ½ and i.
Camphor, gr. i.
Camphor Co. Tinct., *m.* x.
Cannabin. Tannat, gr. ij.
Carbo. Lig. gr. v. and x.
*Cascaræ Ext., gr. ij.
* „ Comp.
Chloralamid. gr. v.
Chloral Hydrat., gr. v.
Chrysarobin, gr. 1/10 and ½.
Cocainæ, gr. 1/20, 1/10, 1/8, 1/5, ¼ and ½.
Codeinæ, gr. ½.
Conf. Aromat., gr. v.
„ „ c. Opio, gr. v.
Cupri Arsenitis, gr. 1/50.
„ Sulph., gr. iv.
Digestive (*see B. S. & G.*).
Digitalis Tinct., *m.* i.
Dover's Powder (*see Ipec. co. Pulv.*)
*Eastonii (each tab. = 3i syrup).
*Ergotin, gr. iij.
Euonymin, gr. ¼ and i.
Exalgine, gr. ¼, ½, i. and iij.
Ferri Arseniatis, gr. 1/16.
„ Redact., gr. i., ij. and iij.
*Ferri et Quin. Cit., gr. iij.
*Ferruginous, gr. v.
Gelsem. (Resinoid), gr. ¼ and ½.
*Guaiaci Co.
Gummi Rub.
„ „ et Cocainæ, gr. 1/20.
*Hydrarg. c. Cretâ, gr. ¼, ½, ¾, and i.
„ Iodid. Rub., gr. 1/20.
„ „ Virid., gr. ½
„ Perchlor., gr. 1/100.
„ Subchlor. (*see Calomel*).
Hydrastiæ Comp.
Hyoscyami, Tinct., *m.* ij.
Hypnal.
*Ichthyol, gr. iiss
Ipecac. Pulv., gr. 1/30, 1/20, 1/10, ¼ and v.
Ipecac. Comp. Pulv., gr. v.
„ Vini, *m.* i.
Kino, gr. i.
Kolæ, gr. v.
*Laxative.
Lithiæ Carb., gr. v.
„ Citrat., gr. v.
Mag. Carb. Pond., gr. v.
„ „ et Menth. Pip.
„ „ et Zingib.
Mangan. Dioxid., gr. ij.
Menthol, gr. 1/10 and 1/20.
Morph. Mur., gr. 1/40, ½ and ¼.
„ „ gr. 1/40 et Ipecac., gr. ½.
Morph. Sulph., gr. ¼, ½, ¾ and ¼.
Nitro-glycerin., gr. 1/100.
Nucis Vom. (Tinct.), *m.* i.
Opii (Tinct.), *m.* ij.
Papain, gr. i., ij., iij. and v.
„ et Pepsin. gr. i., ij. & iij.
*Pepsin. gr. iiss.
*Peptonic.
Phenacetin, gr. v.
Pilocarpin. Mur., gr. 1/20.
Podophyllin, gr. ¼, ½ and ¾.
Potass. Bicarb., gr. v.
Potass. Bromid., gr. v.
„ Chlor., gr. v.
„ „ et Boracis.
„ „ „ Cocainæ, 1/100, 1/20.
„ Iodid., gr. iij. and v.
„ Nit., gr. v.
„ Permang., gr. ij. and iij.
*Quin. Bisulph., gr. 1/10, ¼, i., ij., iij. and v.
Resorcin (Resublimed), gr. v.
Rhei Co. Pulv., gr. v.
„ „ Pil. B.P.
„ et Hyd. c. Creta, aa gr. iss., iiss.
„ et Zingib.
„ „ et Sodæ.
Rhinitis.
¶Saccharin, gr. ½.
Salicin, gr. v.
Salipyrin, gr. v.
Salol, gr. v.
Santonin, gr. i.
* „ et Calomel, aa gr. i.
Soda Mint.
Sodii Bicarb., gr. v.
„ Bromid. gr. v.
„ Chlorat., gr. v.
„ Dithiosalicylat., gr. iij.
„ Salicylat., gr. v. (Physiologically pure).
„ Salicylat., gr. v. (Natural).
„ Sulpho Carbolatis, gr. v.
Strophanthi, Tinct. (*m* ij.).

SUBLIMATE.

SUBLIMATE COMP.

Sulphonal, gr. v.
Sulphur, gr. v.
„ Co.
Tannin, gr. i.
„ et Capsicl.
Terebene, *m.* i.
Thyroidin, gr. v.
Urethane, gr. iij. and v.
Voice (*see Pot. Chlor. Borax et Cocain*).
*Warburgii (Tinct. = *m.* 80).

* *Those of the above Tabellæ prefixed by an asterisk are* SUGAR-COATED, *and will in all cases be sent coated in this way (unless otherwise ordered).*

SUBLIMATE TABELLÆ for quickly preparing antiseptic Solutions for sprays and lotions of definite strength, are sold in bottles (retail) at 9d. and 1s. 6d.

All Tabellæ sold in *bulk* and conveniently put up in Vinaigrette Bottles for the pocket, with name and trade mark (a Plough) on label, *at a uniform rate*, viz. :—1s., 2s. 6d., and 4s. 6d. each (retail); 8s., 21s., and 40s. per dozen (¶ except Saccharin, which are 9d., 2s., and 4s. (retail), or 7s. 6d., 21s., and 42s. per dozen.

☛ **Physicians desiring to prescribe Tabellæ of Allen and Hanburys' manufacture can signify the same by the addition of the initials "A. & H.," which, for convenience, Allen and Hanburys have registered as a Trade-Mark, thus:—**

℞ *Tab. Thyroidin, gr. v., A. & H.*

Samples supplied to the Medical Profession on application.

ALLEN & HANBURYS, Ltd., PLOUGH COURT, LOMBARD STREET, LONDON.

West End House—VERE STREET, CAVENDISH SQUARE, W.
Lavatories and Warehouse—BETHNAL GREEN, LONDON, E.
Cod Liver Oil Factories—LONGVA & KJERSTAD, NORWAY.
Australian Agency—484, COLLINS STREET, MELBOURNE.

"Mountain Zinfandel:"

A REALLY CHOICE CALIFORNIAN RUBY WINE.

EXHIBITING THE BEST PROPERTIES OF CLARET & BURGUNDY.

AT 24s. PER DOZEN BOTTLES.

Direct from the Fountalngrove Vineyards, Santa Rosa, California.

"Mountain Zinfandel" contains all the subtle and invigorating essences of California's glorious sunshine. It excels in the marked manner in which it restores exhausted nervous energy.

The Medical Annual says:—"'MOUNTAIN ZINFANDEL' has neither the acidity of Claret nor the heating properties of Burgundy, and we never prescribed one which has given greater satisfaction to our patients."

Champagnes.

A. PERNAY & CO., REIMS.

These Wines are 1889 vintage, a "crack" vintage of the century. The Cuvée de Réserve is equal in character and quality to the higher priced "popular" brands.

Cuvée de Réserve - 66s.	} Per Doz.	{	24 Half Bottles
Pale Dry Sillery - 45s.	} Botts.	{	4s. extra.

The Medical Annual says:—"We feel justified in saying that it would be impossible to purchase Champagne of the same all-round merit without paying nearly double the price at which these are marked."

Californian Brandy.

AN UNADULTERATED SPIRIT, DISTILLED WHOLLY FROM WINE.

Price 60s. PER DOZEN BOTTLES, CARRIAGE PAID.

This Brandy is equal to the French Brandies of twenty years ago, that is, when they also were distilled from wine.

The Medical Annual, 1892, says:—"The Analysis proves that it is a pure grape spirit which the practitioner can safely recommend."

Scotch Whisky.

VERY RARE OLD LIQUEUR, Over 10 years old in Bond.

This is a Blend in Bond of Old and exceptionally rare Whiskies.

The Medical Annual says of this:—"It Represents the highest perfection to which the art of Distilling and careful blending can be brought."

Price 48s. PER DOZEN BOTTLES, CARRIAGE PAID.

CASH OR REFERENCE REQUIRED WITH ORDER.

THE USUAL DISCOUNT TO THE MEDICAL PROFESSION.

C. W. PEARCE & CO.,

LONDON— 16, MARK LANE, E.C. | *GLASGOW*— 206, WEST GEORGE ST.

LIVERPOOL—17, GREAT GEORGE SQUARE.

DR. RENNER'S

ESTABLISHMENT FOR VACCINATION WITH CALF LYMPH,

186, MARYLEBONE ROAD, LONDON, N.W.

VACCINATION FROM THE CALF DAILY FROM 11 TO 12 O'CLOCK

Prices of Calf Lymph (Daily Fresh).

TUBES { Large 2/- each or 3 for 5/6 / Small 1/- each or 3 for 2/9 | POINTS { Large 1/- each or 3 for 2/6 / Small 9d. each or 3 for 2/-

SQUARES .. .. 2/6 each.

Registered Telegraphic Address: "VACCINE, London."

SENT ON RECEIPT OF REMITTANCE ADDRESSED TO THE MANAGER OF THE ESTABLISHMENT.

CHIRATA LIQUIDA KEMP.

AN INCOMPARABLE TONIC.

In certainty of action practically a New Remedy. The full therapeutic properties of Chiretta made available for the first time.

ANTI-ANÆMIC, ANTI-MALARIAL, CHOLAGOGUE.

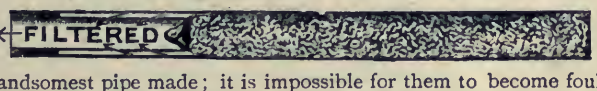
Write for Circular and Sample.

KEMP (late of KEMP & CO., Limited, Bombay),
10, BEDFORD TERRACE, KENSINGTON.

BILTOR PIPES AND CIGARETTES.

Absolutely the most hygienic system of smoking yet invented.

Prize Medal, Chicago World's Fair.



The handsomest pipe made; it is impossible for them to become foul, and are inoffensive and always clean.

Write for Illustrated Price List, or send 3/- for a Sample Biltor Pipe, including a Box of 50 Cartridges, price 6d.

Sample Box of 25 CIGARETTES (Egyptian) for 2/6.

In Smoking Rooms none but the BILTOR should be smoked. Please test our claims.

"THE BILTOR" CO., 93, Oxford Street, LONDON, W.

A SPECIALITY!

SEGAR'S BEER

IS

PURE BEER.

A BOON

Alike to those who, having a Weak Digestion, require a **DIGESTIBLE ALE,** and to those who, having a sensitive palate, desire a **DELICATE ALE** for their use.

SEGAR'S ALE

Is Guaranteed to be brewed from Choice English Hops and Barley-Malt **ONLY.**

The best Guarantee that Segar's Beer is PURE BEER brewed from English Hops and Barley-Malt ONLY, is the fact that H. Segar & Co. can PROVE that they have NEVER used any substitute whatever for Choice kinds of English Hops and Barley-Malt in the manufacture of Beer.

Dr. BERNAYS, the late eminent Chemist of St. Thomas' Hospital, London, stated:—"The faculty of promoting digestion gives to such Beer a unique character."

H. SEGAR & CO.,

BEVINGTON BUSH BREWERY, LIVERPOOL.

ASK FOR SEGAR'S ALE.

A. W. REID & Co.,

Manufacturing Sanitary Engineers,

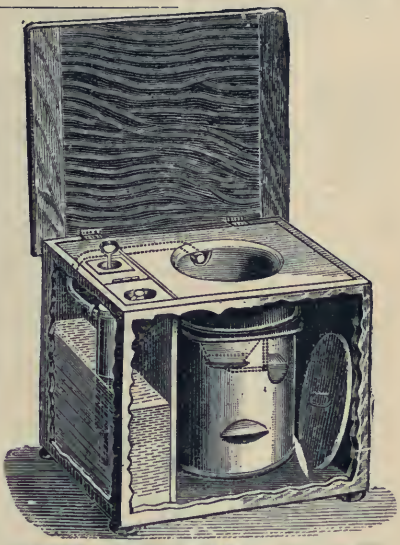
69, ST. MARY AXE, LONDON, E.C.

REID'S

Portable Water Closets

FOR CLEANLINESS, COMFORT AND CONVENIENCE.

In Invalids' Apartments, Country Houses, House Boats, &c.



PRICES.	£	s.	d.
Reid's full size Improved Portable Water Closet, white basin, French polished mahogany case, with door in front	6	0	0
Do. in polished pine case, with mahogany seat, door in front ..	5	0	0
Mahogany Arms to either of the above, *extra*	0	12	0
Blue Printed Basins, *extra*	0	2	0

"ALDGATE" FLUSH DOWN PEDESTAL CLOSET.

Specially designed to work with a Syphon Cistern, compact in appearance, economical in price.

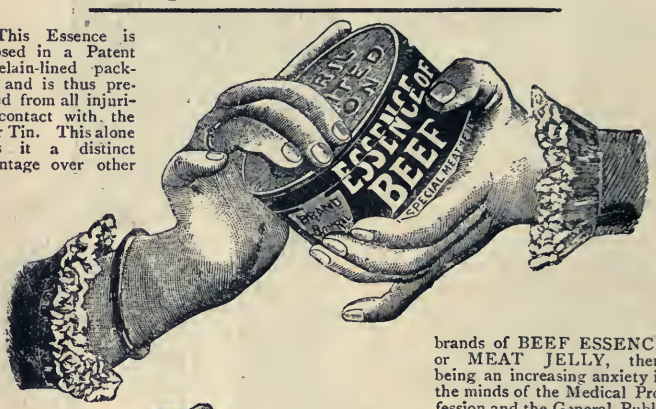
PRICES.	£	s.	d.
Plain white "Aldgate" Flush Down Pedestal Closet, polished mahogany or walnut seat, syphon cistern, brass chain, porcelain pull, and paper box, complete with brackets for cistern and seat	4	0	0
Do. printed basin .. *extra*	0	5	0
Do. printed inside and out, *extra*	0	10	0
Do. with raised ornamentation, as illustration, in plain white .. *extra*	0	7	6
Do. with self-rising seat, *extra*	0	10	0

Gold Medal awarded at the International Health Exhibition, London, 1884.

ESSENCE OF BEEF.

A Special MEAT JELLY prepared from finest fresh ENGLISH OX BEEF, extracted by gentle heat without added water, and guaranteed absolutely pure.

This Essence is enclosed in a Patent Porcelain-lined package, and is thus preserved from all injurious contact with the outer Tin. This alone gives it a distinct advantage over other



brands of BEEF ESSENCE or MEAT JELLY, there being an increasing anxiety in the minds of the Medical Profession and the General Public concerning the contaminating

action of tin and solder upon articles of food, especially food designed for invalids. By means of a patent self-contained cutter, the Tin is opened in the most simple and effective manner, leaving an outer loose lid for temporarily covering the contents. This Essence of Beef can be safely relied upon as an admirable stimulant and restorative in cases of enfeebled digestion, nervous exhaustion, loss of blood, sudden shock, or in severe illness where no other food can be tolerated by the patient.

PREPARED BY

BOVRIL, LTD., FOOD SPECIALISTS, LONDON.

MACKEY, MACKEY & CO.,

Wholesale Druggists, Manufacturing Chemists.

MISTURA BISMUTHI COMP.

MACKEY'S ORIGINAL PREPARATION.

Composition Liq. Bismuth, Tr. Nux Vomica, Morphia, Hydrocyanic Acid, and Spt. Chlorof., price 7/6 lb.

This reliable prep ration contains Bismuth in its most effective form for the successful treatment of Atonic and Irritative Dyspepsia, Gastric Catarrh, and Pyrosis accompanied with Pain after food. It is highly useful in some forms of Vomiting, and has been used with success in the Diarrhœa or Constipation connected with Debilitated Conditions of the Alimentary Canal.

The Lancet says :—"Bismuth could hardly be given in a better form."

"I have used the Mistura Bismuthi Co., prepared by Messrs. MACKEY, MACKEY & Co., and have found it most efficacious, and far superior to any other preparation of Bismuth that has come under my notice."—C. E. B——, M.R.C.S., &c.

"MACKEY'S Mistura Bismuthi Co. is an improvement on other preparations of Bismuth, and more acceptable to the stomach. I have found it a very valuable preparation."—J. P——-, F.R.C.S.

MISTURA CASCARÆ SAGRADÆ COMP.

Prepared from Selected Barks of RHAMNUS PURSHIANA and RHAMNUS FRANGULA, flavoured with Aromatic Syrup. Dose ℥j to ℥iv.

To obtain the best results from the Barks of Rhamnus Purshiana and Frangula it is necessary that they should be collected, not only at the right season of the year, but of the proper age, when the bark is neither too young nor too old. Much of that sent to this country consists of bark of all ages, and is consequently not always to be relied upon. In preparing our Mistura Cascaræ Comp. we use only that bark which has arrived at proper maturity, thus ensuring the best results; the menstruum employed being the most suitable for extracting the aperient properties of the bark without causing precipitation when diluted. It is agreeably flavoured with Aromatic Syrup, and forms an excellent remedy for Habitual Constipation when continued in doses of ℥j; or as an aperient or cathartic, in doses of ℥ij to ℥iv.

"The value of Cascara Sagrada is now very generally recognised. MACKEY, MACKEY AND CO.'s Mistura Cascaræ Sagradæ is evidently prepared from the finest of selected material, and we confidently commend this excellent preparation to the notice of the profession."—*Lancet*, August 29th. 1891.

GELATUM EUCALYPTI.

A non-fatty Jelly prepared with the finest Eucalyptus Oil.

As an Antiseptic in handling infectious cases.

For Inhalation in Bronchitis, Whooping Cough, Influenza, &c.

As a Disinfectant wash for Wounds, Sores, and for general disinfection, and use with the spray.

For Coughs, Cold, and Sore Throat.

For Sprains, Bruises, Rheumatic Stiffness of Joints and Muscles.

In Erysipelas.

Makers of Soluble Gelatine-, Pearl-, and Sugar-coated Pills, Tabellæ, Hypodermic Injections, Pessaries, Suppositories, Bougies, Pastils, Fluid Extracts, Oleates of the Metals, &c.

Drugs and Chemicals of Best Quality. New Remedies and Special Pharmaceutical Preparations.

PRICE LISTS AND SAMPLES ON APPLICATION.

1 & 2, Bouverie Street, Fleet Street, LONDON, E.C.

For Liquors send to Battley's.

FIRST CLASS AWARD.

Pharmaceutical Preparations.

International Medical Exhibition,

LONDON, 1881.

FIRST CLASS AWARD.

Pharmaceutical Preparations.

International Medical Exhibition,

NEW ORLEANS,

1885.

MESSRS. BATTLEY & WATTS,

(Successors to the late RICHARD BATTLEY, and the only Makers of his Liquors).

B. & W. warn the Public against using any Preparations under the above name, unless the Autograph of "RICH. BATTLEY" is on each cork and on the Label attached to each Bottle, *without which none is genuine.* The above are only prepared at their Laboratory, Cripplegate, London. Physicians will oblige by writing "BATTLEY" after the name of the Liquor on their Prescriptions, as frequent complaints are received of spurious imitations being substituted.

Liq. Belladon. Dose, 1 to 2 min. Battley's.
Liq. Buchu. Dose, 10 to 50 min. Battley's.
Liq. Cinchon. Cord. Dose, 2 to 15 min. Battley's.
Liq. Cinchon. Pallid. Dose, 2 to 15 min. Battley's.
Liq. Conii. Dose, 2 to 6 min. Battley's.
Liq. Colchici Recentis, Dose, 8 to 16 min. Battley's.
Liq. Calumbæ. Dose, 5 to 15 min. Battley's.
Liq. Camphoræ. Dose, 12 to 24 min. Battley's.
Liq. Gentianæ. Dose, 5 to 15 min. Battley's.
Liq. Hyoscyam. Dose, 2 to 8 min. Battley's.
Liq. Iodi Alb., for external use. Battley's.
Liq. Opii Sedat Dose, 5 to 15 min. Battley's.
Liq. Secalis Cornut. Dose, 20 to 60 min. Battley's.
Liq. Tritic. Repen. Dose, 20 to 60 min. Battley's.
Liq. Taraxaci. Dose, ½ to 1 drm. Battley's.
Liq. Valerianæ. Dose, 8 to 16 min. Battley's.
Syr. Quatuor Hydrobrom. Dose ½ to 1 drm. Battley's.

PRICE LISTS AND SAMPLES ON APPLICATION.

BATTLEY & WATTS,

MANUFACTURING CHEMISTS,

CRIPPLEGATE, LONDON.

THE

MEDICAL ANNUAL

AND

PRACTITIONER'S INDEX.

NESTLÉ'S FOOD

An ENTIRE DIET for INFANTS, CHILDREN AND INVALIDS.

"Renders valuable assistance in Wasting Fever."

"Beneficial as a diet in severe cases of Typhoid."

"Invaluable in Cholera Infantum."

Pamphlet containing Extracts from Standard Medical Works in which the above Testimony is given sent free, with Sample Tin, on application to H. NESTLE, 9, Snow Hill, London, E.C.

The attention of the Medical Profession is also drawn to

NESTLÉ'S SWISS (CONDENSED) MILK

Which, through its RICHNESS in CREAM and UNIFORMITY of QUALITY, has obtained the Largest Sale in Great Britain. It can be used for all purposes of FRESH MILK.

Samples to Members of the Medical Profession only sent free on application to H. NESTLÉ, 9, Snow Hill, London, E.C.

THE

MEDICAL ANNUAL

AND

PRACTITIONER'S INDEX:

A Work of Reference for Medical Practitioners.

Editors and Contributors.

WM. ALEXANDER, M.D., F.R.C.S.
PROF. GILBERT BARLING, M.B., F.R.C.S.
PROF. WILLIAM T. BULL, M.D.
PROF. ALF. H. CARTER, M.D., F.R.C.P.
PROF. V. CHALOT, M.D.
PROF. H. D. CHAPIN, M.A., M.D.
A. FR. EKLUND, M.D.
E. HURRY FENWICK, F.R.C.S.
T. COLCOTT FOX, B.A., F.R.C.P.
E. F. FROST, M.D.
SIR ALFRED B. GARROD, M.D.
J. DUNDAS GRANT, M.D., F.R.C.S.
PROF. JNO. B. HAMILTON, M.D., LL.D.
PROF. G. M. HAMMOND, A.M., M.D.
HENRY HANDFORD, M.D., M.R.C.S.
PROF. H. A. HARE, M.D.
FRANK W. JACKSON, M.D.
OSCAR JENNINGS, M.D., M.R.C.S.
ROBERT JONES, F.R.C.S., E.
W. ARBUTHNOT LANE, F.R.C.S.
GREVILLE MACDONALD, M.D., M.R.C.S.
PROF. PAUL F. MUNDÉ, M.D.
WILLIAM MILLIGAN, M.D.
PROF. ALEXANDER OGSTON, M D.
JOS. PRIESTLEY, B.A., M.D., D.P.H.
JOHN RIDLON, M.A., M.D.
PROF. A. W. MAYO ROBSON, F.R.C.S.
PROF. ROBT. SAUNDBY, M.D., F.R.C.P.
JAMES SHAW, M.D.
PROF. R. SHINGLETON SMITH, M D.
WILLIAM J. SMYLY, M.D., F.R.C.S., I.
SIMEON SNELL, F.R.C.S., E.
PROF. E. SONNENBURG, M.D.
J. STRAHAN, M.D., R.U.I.
PROF. J. MADISON TAYLOR, M.D.
W. THORBURN, F.R.C.S., B.Sc.
PROF. UNNA, M.D.
P. WATSON WILLIAMS, M.D.

9/2/06
68354

1894.

TWELFTH YEAR.

Bristol:

JOHN WRIGHT & CO., STONE BRIDGE.

London:

SIMPKIN, MARSHALL, HAMILTON, KENT & CO., LTD.

EDINBURGH: YOUNG J. PENTLAND; GLASGOW: A. STENHOUSE;
NEW YORK: E. B. TREAT; CALCUTTA: THACKER, SPINK & CO.;
PARIS: BOYVEAU & CHEVILLET;
MELBOURNE, SYDNEY, ADELAIDE AND BRISBANE: G. ROBERTSON & CO.;
SYDNEY: ANGUS & ROBERTSON; TORONTO: J. A. CARVETH & CO.

GOLD MEDALS { Antwerp, Cologne, Amsterdam, Brussels, The Hague, Dublin, Birmingham, &c.

R 101 M4 1894

"Johannis"

THE KING OF NATURAL TABLE WATERS.

Promotes Appetite!

Assists Digestion!

Prolongs Life!

"The remainder of a bottle opened and recorked exhibited marked effervescence after four days. The Carbonic Gas is exceptionally pure, being the *natural* gas collected from the Springs."—*Medical Annual.*

"The water mixes well with wines and spirits; the peculiar softness which the *natural* gas lends to the taste rendering it admirably adapted for the purpose."—*The Lancet.*

Samples, Price List, Copy of the "Lancet's" Special Analytical Report, &c., free on application to

THE JOHANNIS CO., Ltd.,

25, Regent Street, LONDON, S.W.

Contributors and Original Contributions to Medical Annual, 1894.

WM. ALEXANDER, M.D., F.R.C.S., Hon. Surg. Royal Southern Hosp., Liverpool. PROLAPSE OF UTERUS (Alexander's Operation).

Prof. GILBERT BARLING, M.B., F.R.C.S., Surg. Gen. Hosp. and Prof. of Surgery, Mason's College, Birmingham. APPENDICITIS

Prof. WM. T. BULL, M.D., Prof of Surgery Coll. of Phys. and Surg., New York City; Surg. to New York Hosp. APPENDICITIS

Prof. ALFRED H. CARTER, M.D., F.R.C.P., Senr. Phys. Queen's Hosp.; Emeritus Prof. of Physiology Queen's College, and Prof. of Therapeutics in Mason's Coll., Birmingham. CHOREA

Prof. V. CHALOT, M.D., Prof. of Surgery at the Faculty of Medicine, and Sen. Surg. at the Hôtel Dieu, Toulouse. PROLAPSE OF UTERUS (Alexander's Operation).

Prof. HENRY DWIGHT CHAPIN, M.A., M.D., Prof. Diseases of Children at New York Post-Graduate Med. School and Hospital; Pres. of Pediatric Section, New York Acad. of Med. Attending Phys. to Demillt Disp., &c. CHILDREN'S DISEASES

A. FR. EKLUND, M.D. Upsala, Cons. Surg. Royal Marine Hosp. and Disp., Stockholm. HÆMOPTYSIS

E. HURRY FENWICK, F.R.C.S., Surg. London Hosp. and St. Peter's Hosp. for Urinary Diseases. { BLADDER TUMOURS / RENAL SURGERY

T. COLCOTT FOX, B.A., F.R.C.P., Phys. Dis. of Skin, Westminster Hosp. and Paddington Green Hosp. for Children, London. SKIN DISEASES

E. F. FROST, M.D., Jefferson College, Philadelphia. VAGINODYNIA

Sir ALFRED B. GARROD, M.D., Phys. Ext. to Her Majesty the Queen; Cons. Phys. King's College Hosp., London. RHEUMATOID ARTHRITIS

J. DUNDAS GRANT, M.A., M.D., F.R.C.S., Surg. Central Lond. Throat and Ear Hosp. EAR DISEASES

Prof. JOHN B. HAMILTON, M.D., LL.D., Prof. of Principles of Surgery and Clinical Surgery in Rush Medical College, Chicago. SYPHILITIC MYOSITIS

Prof. G. M. HAMMOND, A.M., M.D., Prof. Diseases of Mind and Nervous System, Post Graduate Sch., New York. NEURALGIA

HENRY HANDFORD, M.D., M.R.C.S., Phys. General Hospital, Nottingham. HÆMATEMESIS OF ANÆMIC YOUNG WOMEN

Prof. H. A. HARE, M.D., Philadelphia, Prof. of Therapeutics in the Jefferson Med. Coll., and Ed. of "The Therap. Gazette." THE THERAPEUTIC GAINS OF 1893

FRANK W. JACKSON, M.D., Chief of Medical Clinic, College of Physicians and Surgeons, New York. HEART DISEASE

OSCAR JENNINGS, M.D., M.R.C.S., Paris. MORPHINOMANIA

ROBERT JONES, F.R.C.S., Ed., Hon. Surg. Royal Southern Hosp., Liverpool. ORTHOPÆDICS

W. ARBUTHNOT LANE, F.R.C.S., Assist. Surg. Guy's Hosp. and Hosp. for Children, Great Ormond St.
HIP JOINT OPERATION
FRACTURES OF LOWER EXTREMITIES

GREVILLE MACDONALD, M.D., Lond., Phys. to the Throat Hosp., Golden Square; Asst. Phys. for Dis. of Throat, King's Coll. Hosp., London. ADENOIDS—HAY FEVER

WILLIAM MILLIGAN, M.D., Lect. on Dis. of Ear, Owen's Coll. Manchester; Assist. Surg. Manchester Ear Institute. OPERATIVE TREATMENT OF CHRONIC INFLAMMATIONS OF THE MIDDLE EAR

Prof. PAUL F. MUNDÉ, M.D., Prof. Gynæcology at New York Polyclinic, and at Dartmouth Coll.; Gynæcologist to Mount Sinai Hospital. MAMMARY ABSCESS

Prof. ALEXANDER OGSTON, M.D., Regius Prof. of Surgery Aberdeen University; Surg. in Ordinary to Her Majesty the Queen in Scotland; Surg. Aberdeen Royal. Infir. CANCER (SUB-MAXILLARY)

JOSEPH PRIESTLEY, B.A., M.D., D.P.H., Medical Officer of Health and Public Analyst for Leicester. SANITATION

JOHN RIDLON, M.A., M.D., Hon. Sec. to the American Orthopædic Association; Lect. on Orthopædic Surgery Medical Coll., Chicago. ORTHOPÆDICS

Prof. A. W. MAYO ROBSON, F.R.C.S., Prof. Surg. Yorkshire College, Victoria University; Surg. Leeds Infirmary. ABDOMINAL SURGERY

Prof. ROBERT SAUNDBY, M.D., F.R.C.P., Prof. Medicine Mason's College; Phys. Gen. Hosp., Birmingham; Cons. Phys. Birmingham and Midland Eye Hosp. and Hosp. for Women. DIET IN BRIGHT'S DISEASE

JAMES SHAW, M.D., Late Med. Supt. and Co-Licensee Haydock Lodge Asylum, Liverpool. FACIAL EXPRESSION IN INSANITY

Prof. R. SHINGLETON SMITH, M.D. Lond., B.Sc., Senr. Phys. Royal Infirm.; and Prof. of Medicine in Univ. College, Bristol. ANTISEPTICS IN THE TREATMENT OF PHTHISIS

WILLIAM J. SMYLY, M.D., F.R.C.S.I., Master Rotunda Hosp., Dublin. SYMPHYSEOTOMY

SIMEON SNELL, F.R.C.S.E., Ophthalmic Surg. General Infirm., and to School for Blind; Lect. on Eye Diseases at Medical School, Sheffield. EYE DISEASES

Prof. E. SONNENBURG, M.D., Prof. of Surgery in the Moabit Hospital, Berlin LESIONS OF SPINE

JOHN STRAHAN, M.D., R.U.I., Surg. Aughnacloy Fever Hosp. SIMPLE FEVERS AND ERUPTIONS LIABLE TO BE MISTAKEN FOR INFECTIOUS ONES

Prof. J. MADISON TAYLOR, M.D., Prof. of Child. Diseases in Philadelphia Polyclinic, and Medico-Chir. College. ENURESIS IN CHILDREN

WILLIAM THORBURN, F.R.C.S., B.Sc., Assist. Surg. Royal Infirm, Manchester. SURGERY OF BRAIN AND NERVOUS SYSTEM

Prof. UNNA, M.D., Medical Director Dermatological Institute, Hamburg. ECZEMA OF THE HANDS AND FINGERS.

P. WATSON WILLIAMS, M.D., M.R.C.S., Physician Throat Department Royal Infirmary, Bristol. DISEASES OF THE NOSE AFFECTING THE LARYNX AND LUNG

The Highest Awards at every

INTERNATIONAL EXHIBITION

HAVE BEEN GAINED BY

GEO. JENNINGS,

Sanitary Engineer,

STANGATE,

LONDON,

"For the general excellence of his manufactures."

THE

CLOSET OF THE CENTURY,

Specially adapted for Hospitals, Infirmaries, and Public and Private Buildings.

Can be seen in action at the Works, opposite St. Thomas' Hospital.

ILLUSTRATED CATALOGUES POST FREE ON APPLICATION.

CONTENTS.

	PAGE
PREFACE	xxix
GENERAL INDEX	xxxiii
LIST OF ILLUSTRATIONS	lvii
THERAPEUTIC GAINS OF THE PAST YEAR	1
DICTIONARY OF NEW REMEDIES	8
DICTIONARY OF NEW TREATMENT IN MEDICINE AND SURGERY	48
APPENDICITIS	80
TUMOURS OF THE URINARY BLADDER	110
BRAIN SURGERY	123
CHOREA	160
DISEASES OF THE EAR	201
ECZEMA OF THE HANDS OR FINGERS	234
DISEASES OF THE EYE	260
FRACTURES OF THE LOWER EXTREMITIES	297
DISEASES OF THE HEART	318
HERNIA	331
FACIAL EXPRESSION IN INSANITY	344
INTESTINAL SURGERY	377
DISEASES OF JOINTS	384
MORPHINOMANIA	421
DISEASES OF NOSE	437
ANTISEPTICS IN THE TREATMENT OF TUBERCULAR PHTHISIS	462
DIFFERENTIAL DIAGNOSIS OF RHEUMATOID ARTHRITIS AND GOUT	501
SURGERY OF THE SPINAL CORD	518

PAGE

Surgery of the Stomach - - - - 527

Typhoid Fever - - - - - - 553

Prolapse of Uterus - - - - - 567

Vaginodynia - - - - - - 573

Sanitary Science - - - - - 583

New Inventions, Improvements in Pharmacy, and Dietetic Preparations - - - - - 601

Lunatic and Idiot Asylums in Great Britain and Ireland 630

Training Institutions for Weak Intellects - - 642

Inebriates' Homes - - - - - 643

Hydropathic Establishments of Great Britain - 644

Invalids' Homes - - - - - 647

Books of the Year: A List of the Principal Medical Works and New Editions Published during 1893 - 648

Directory, Official and Trade - - - - 661

Medical and Scientific Societies - - - 663

Nursing Institutions and Associations - - - 666

Medical and Scientific Newspapers and Periodicals - 670

Note Book—for the Insertion of Private Addresses, List of Nurses, Books or Instruments Lent, Etc., Etc. - 673

Life Assurance Offices, List of - - - - 683

CREAM OF MALT WITH COD LIVER OIL,

AND

OPPENHEIMER'S
CREAM
of MALT
WITH COD LIVER OIL
AND HYPOPHOSPHITES
Contains all the Principles of COD LIVER OIL combined with the digestive & nutritive properties of CREAM of MALT.
Rich in Phosphates Albuminoids Diastase and MALTOSE
FREE from ALCOHOL
TRADE MARK
PRICE 3/-
Prepared by
OPPENHEIMER SON & Co. LTD
Manufacturing Chemists
14 WORSHIP STREET. LONDON

HYPOPHOSPHITES

(OPPENHEIMER).

Cream of Malt is a carefully prepared exhaust of the finest Scotch winter barley evaporated *in vacuo* to preserve the activity of that valuable digestive principle—diastase. As Cream of Malt is, however, more largely used as a strengthening and resuscitating agent in such wasting diseases as Phthisis, Bronchitis and Rickets, more attention is directed to producing a preparation which in itself shall be essentially a Food. Hence **Cream of Malt** will be found to be exceedingly rich in the phosphates and albuminoid principles of the grain. In **Cream of Malt with Cod Liver Oil,** and **Hypophosphites,** the Cod Liver Oil and Hypophosphites are in a perfect state of solution, enabling them to be readily assimilated without digestive disturbance. The value of such a combination is evident, and the superiority of this preparation over the many Malt Extract mixtures of other firms is evidenced by the medical testimony received, which will be forwarded to any medical man upon application.

Cream of Malt with Cod Liver Oil, and **Hypophosphites** (Oppenheimer) is free from all odour and taste of the oil, and is readily taken by children.

Samples, Price Lists, Professional and Press Opinions, Free on application.

OPPENHEIMER, SON & CO., Ltd.,

14, WORSHIP STREET, E.C.

DOSE—

3j. fl. in water.

LIQUOR HELALIN. ET PEPSIN. CO. (REGISTERED.) (OPPENHEIMER.)

The New Hepatic Stimulant and proteid digestive.

A combination of "Helaline" and pure Pepsine Porci in a concentrated fluid state.

OTHER COMBINATIONS.

Liq. Helalin. et Culv. Co.
(For Hæmorrhoids).
Liq. Helalin. et Casc. Sag. Co.
Liq. Helalin. et Bism. Co.

"Helaline" possesses a specific stimulating and cholagogic action on the biliary organs.

The Most reliable liver stimulant yet placed before the Profession.

DOSE—3j. fl. in water.

In ½-lb. and 1-lb. Bottles at 10/6 per lb.
Samples free to the profession.

OPPENHEIMER, SON & CO., Ltd., 14, Worship St., E.C.

THE CLINICAL TEST.

"The results far exceeded our expectations."

CASE (one of three) reported in the "MEDICAL ANNUAL," 1893, showing the

INCREASE OF HÆMOGLOBIN

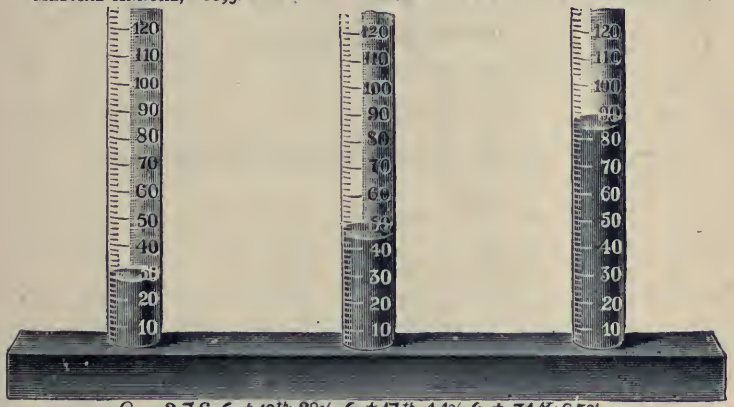
RESULTING FROM THE ADMINISTRATION OF

TWO BI-PALATINOIDS OF CARBONATE OF IRON

THREE TIMES DAILY.

Oct. 10th, 28 per cent.; Oct. 17th, 44 per cent.; Oct. 31st, 85 per cent.

"MEDICAL ANNUAL," 1893. CASE No. 2. *Plate VIII.*



Case 2. J.S. Oct, 10th 28%, Oct, 17th 44%, Oct, 31st 85%.

"Will, as a matter of course, meet with hearty and very general approval."—*The Lancet.*
"Well worthy of the attention and the gratitude of the profession."—*Medical Annual.*
"The acme of pharmaceutical perfection."—*Indian Medical Record.*
"A very ingenious and marked progress in elegant and efficient pharmacy."—*British Medical Journal.*
"If Blaud's pill be the thing, surely this must be prince of all."—*Medico-Chirurgical Journal.*

Price 2s. 6d. per Gross to the Profession.

OPPENHEIMER, SON & CO., Ltd., 14, Worship St., E.C.

UTERINE TONIC AND RESTORATIVE.

Exerts its power principally over the Kidneys, Bladder, Ureters, Urethra, Uterus, and Vagina, and to stimulate the assimilating organs.

INDICATIONS:—
Amenorrhœa, Dysmenorrhœa, Leucorrhœa, premature cessation or delay of the menses, Prolapsus Uteri, and to prevent miscarriage, &c.

In prescribing please specify OPPENHEIMER.

Liquor Caulophyllin et Pulsatillæ Co.

(OPPENHEIMER.)

DOSE.—℥j *in water three or four times a day.*

In prescribing please specify OPPENHEIMER.

The LANCET says:—

"The most perfect emmenagogue that our present state of knowledge has yet suggested. It deserves a permanent place in the select circle of approved remedies. It is not too much to say that this compound emmenagogue redeems from the charge of imposture the reputation of its dilapidated class."

Samples, Price Lists, Professional and Press Opinions, Free upon Application.

OPPENHEIMER, SON & CO., Ltd.,

14, WORSHIP STREET, E.C.

PREFACE.

In the general arrangement of this volume the plan which has met with approval in former years has been followed, but we have, to a larger extent than heretofore, presented the records of the more important contributions to Medical Science in the form of direct communications from those who have made them. To accomplish this, we have had to ask for the co-operation of Physicians and Surgeons in all parts of the world, and a glance at our list of contributors will show the wide area represented by those who have assisted in making this volume of value to our readers.

It has been our constant aim to prevent the *Annual* from becoming the organ of any particular school of thought or section of the profession, and by seeking our contributors from all schools and all countries we give effect to this policy in a manner which might be otherwise impossible.

We recognize very fully that in the treatment of certain diseases the experience of the specialist is valuable to the practitioner in formulating an opinion upon the newer

views which may be advanced, but even here, when there is a marked difference of opinion between physicians or surgeons of eminence, it seems to us advisable to insert papers from those who represent the various sides of the question, rather than to give prominence to only one of them. This will explain why more than one article not infrequently appears on the same subject in these pages.

It is our rule to spare neither trouble nor expense in elucidating, by illustrations, the articles in the text, and amongst those in our present issue, which have involved considerable labour on the part of both author and publishers, we may mention those which accompany Dr. Shaw's valuable communication on the "Expression of the Face as a means of Diagnosis in cases of Insanity."

The kind expressions of approval with which our former editions have been received, both by the medical press and our subscribers, have encouraged us to further efforts to make the present volume still more worthy of their acceptance.

The "Medical Annual" Offices,
Bristol, England,
January, 1894.

LIEBIG "COMPANY'S" *Extract of Beef*

Makes the **PUREST, CHEAPEST** and **BEST**

BEEF TEA

PERFECT PURITY
ABSOLUTELY GUARANTEED.

See SIGNATURE (as annexed) in BLUE INK across the Label on each Jar of the Genuine Extract.

J. Liebig

Forty Pounds of Prime Lean Beef are used to make ONE POUND of this Extract.

Highest Awards at all the Principal Exhibitions since 1867, and declared

Above Competition since 1885.

THE COMPANY'S COOKERY BOOK sent free on application to

LIEBIG'S EXTRACT OF MEAT COMPANY, Ltd.

9, FENCHURCH AVENUE, E.C.

TEN GOLD MEDALS.

Maltine.

Obtained the ONLY GOLD MEDAL *for Extract of Malt at the International Health Exhibition, London, 1884.*

MALTINE is the only Extract of Malt made from Wheat, Oats and Barley.

AS A FOOD.—"The greater value of this combination is apparent, as Wheat and Oats are especially rich in muscle- and fat-producing elements."—*British Medical Journal.*

AS A DIGESTANT.—"MALTINE contains from three to five times as much diastase as any other Extract of Malt."—*Prof. Attfield.*

MALTINE is the Registered Trade Mark of the

MALTINE MANUFACTURING CO. Ltd.,

24 & 25, HART STREET, BLOOMSBURY, LONDON.

CARNRICK & CO.'S

Maltoline

A Concentrated Extract of the best English Malt in chemical combination with pure Norwegian Cod Liver Oil and Hypophosphites of Lime, Soda, and Iron.

Each fluid ounce contains Calcium Hypophosphite, 2 grains; Sodium Hypophosphite, 2 grains; Iron Hypophosphite, ½ grain.

CARNRICK'S "MALTOLINE" combines the starch-digesting activity of diastase, the valuable digested nutriment represented by the carbohydrates of the malted grain, the fat-forming properties and alterative action of Cod Liver Oil, together with the tonic and restorative influence of the hypophosphites.

Embodying these valuable features in a concentrated and palatable form, CARNRICK'S "MALTOLINE" will be found a very useful dietetic and therapeutic auxiliary.

CARNRICK & CO., LTD.,

24 & 25, HART STREET, BLOOMSBURY, LONDON.

General Index.

PAGE

ALEXANDER, W., *p.* 570.
Abdomen, Gunshot Wounds of ... 51
Abdominal adhesions, a Cause of disease 50
— Injury 51
— Operations, Iodoform in 48
— Section for Hernia 335
— Surgery 48
Ablation in Hypertrophy of Tonsils 547
Abortion 52
— Creolin for 53
— Use of Iodoform Gauze Tampon ... 52
Abscess of Pancreas 455
— Formation in Appendicitis 84
— Hepatic... 408
— (Mammary) 53
— Retro-Pharyngeal 461
— Sub-Phrenic 56
— Teucrin in 42
Abscesses, Alumnol for 9
Abstinence from Food in Gastric Ulcer 531
Acacia Mucilage in Cancer 149
Accouchement Binders 612
Acetate of Lead in Dysentery 198
— — — — Hæmoptysis 312
— — — — Œdema Pulmonum ... 412
— — Morphia in Hæmoptysis ... 312
Acne Rosacea, Ergot in 57
— — Ichthyol in 58
Acne Vulgaris, Boric Acid in 58
— — Corrosive Sublimate in 58
— — Kristaline in 59
— — Losophan in 22
— — Lysol in 59
— — Sulphur Ointments in 58
Aconite in Aneurism 77
— — Pneumonia... 478
Aconitine in Neuralgia 434
— Nitrate in Erysipelas 256
Acromegaly, Antipyrin and Arsenic in 59
Actinomycosis 59
— Iodide of Potassium in 60
— Proteine in 60
— Teucrin in 42
Acute Dementia 358
— Mania 353
— Delirium 356
Adenoid Growths of Naso-pharynx ... 60
Adeps Lanæ 603
Adolescent Insanity 356
Agathin 603
— as an Analgesic 8
— in Neuralgia 8
— — Rheumatism 8
— — Sciatica 8
Agitated Melancholia 350
Albuminuria 62
— Calcium in 63
— Cantharides in 62
— Diuretics in 62
— Drastics, use of in Uræmia 62
— Iodide of Potassium in 62
— Lactose in 63
— Strontium in 63
— Use of Cutaneous Stimulants ... 62
Alcohol in Enteric Fever 244
— — Œdema Pulmonum 411
— — Prostration of Chorea 163
— — Sycosis 533
— — Typhus 556

PAGE
Alcohol and Water in Pregnancy ... 481
Alcoholic Insanity, Chronic 359
— Primary Dementia 364
— Pseudo-general Paralysis 369
Alcoholism Acute, Importance of Sleep in 64
— Digitalis in 67
— Electro-therapy in 66
— Galvanism for 65
— Hydrate of Chloral in 65
— Hydrotherapy in 66
— Ipecacuanha in 66
— Morphine and Opium in 64
— Shampooing in 65
— Sunlight and Change in 65
— Use of Hot Water in... 66
— Value of Alkalies in 66
Alexander's Operation 567
Alkalies in Insanity 375
— Valuable in Alcoholism 66
Alkaline Baths in Epilepsy 250
— Salts for Dysmenorrhœa 200
— Solutions in Nasal Catarrh... ... 443
Alopecia Areata, Arsenic in 68
— — Croton Oil in 68
— — Essence of Cinnamon in... ...68, 60
— — Oil of Turpentine in 68
— — Pilocarpine in 69
— — Pyrozone in 68
— — Topical Remedies for 68
— — Wintergreen and Ether in ... 69
Alumnol for Abscesses 9
— in Eczema 8
— for Erosions 8
— — Erysipelas 9
— in Psoriasis 488
— — Rhinitis 506
— — Ulcer 557
— Plasters in Furunculosis 301
— — — Lupus Vulgaris 416
Amaurosis 70
Ambulance, New 624
Amenorrhœa 70
— Apiol in... 71
— Apioline in 11
— Bromide of Potassium in 71
— Electricity in 71
— Honey of Iron in 71
— Iron and Ergot for 70
— Massage in 71
— Mugwort in 71
— Oxygen Inhalation for 71
— Saffron in 71
— Sinapisms in 71
— Valerian in 71
— Warm Foot-baths Useful in ... 71
Ammonia Aromat. 603
— in Alopecia Areata 68
— for Bronchitis 140
— in Heat Stroke 329
— — Typhus 556
— Valerianate in Morphinomania ... 425
Ammonium Benzoate in Typhoid ... 555
— Carbonate in Dysentery 197
— — — Scarlatina 509
— Bromide in Diabetes... 179
— Chloride Inhalations in Pneumonia 478
— Sulph-ichthyolate in Gonorrhœa 305
Amyl Nitrite in Heat Stroke 329

Amylene Hydrate in Morphinomania 426
Anæmia, Ac-hydrochlor. in 72
— Albuminate of Iron in 73
— Arsenic in 72
— Bicarbonate of Soda in 72
— Blaud's Pills and Hot-Air Baths in 73
— Iron in 72
— Pernicious 73
— — Transfusion of Blood in 72
— Quinine and Carbonate of Potash in 72
— and Chlorosis 71
Anæmic Insanity 352
Anæsthesia Local, Tropacocaine in ... 47
— Vomiting during 73
Analgen 604
— as an Analgesic 9
— in Bronchial Asthma and Neuralgia 9
Analgesic, Analgen as an 9
Anasarca, Deep Incisions for 75
Anatomy Inspectors 662
Anergic Stupor 358
Aneurism 76
— Aconite, Bromides, Chloroform, Morphia and Nitrite of Amylin in 77
— Venesection for 76
Angina Pectoris 77
— — Alkaline Stomachic for 78
— — Arsenic in 78
— — Cocaine in 79
— — Creasote in... 78
— — Digitaline in 79
— — Digitalis in... 78
— — Fowler's Solution in 79
— — Hydrochloric Acid and Orange Peel for 78
— — Iron in 78
— — Milk Diet for 77
— — Phosphorus in 79
— — Potassium Iodide in 79
— — Quinine in 79
— — use of Thymol in 78
— — Valerianate of Zinc in 79
— — Value of Aperients in 78
Anhydrous Chromic Acid in Pharyngomycosis 460
Anorexia, Orexin in 25
Anthrax, Carbolic Acid in 79
— Phenic Acid in... 30
Antifebrin in Erythromelalgia 259
— — Neuralgia... 434
— — Typhoid 554
Antipyrin 9
— in Cholera Infantum 159
— — Diabetes 179, 181
— — Dysmenorrhœa 199
— — Epistaxis 253
— — Erythromelalgia 259
— — Gonorrhœa... 306
— — Neuralgia 434
— — Sea-sickness 513
— — Typhoid 554
Antiseptic Irrigation for Irritable Bladder 108
— Puerperal Douches 490
— Scalpels 613
Antiseptics in Abdominal Surgery ... 48
— Diaphtherin as an 18
— for Eye Operations 270
— in Treatment of Phthisis 462
Antitoxin 10
Antitoxin in Tetanus 538
Anus Fissure of 80
— Fissured, Acid Nit. of Mercury for 80
— — Carbolic Acid & Cautery for ... 80
— — Iodoform Ointment and Iodol for 80
— — Nitrate of Silver & Nitric Acid for 80
— — Sulphate of Copper for 80
— — use of Cocaine for... 80
Aperients in Angina Pectoris 78
Aphonia, Hysterical 401
Apiol in Amenorrhœa 71
Apioline in Amenorrhœa 11
— — Dysmenorrhœa 11
Appendicitis 80
— Acute Perforating 86
— General Symptoms 81
— Leeches in 84
— Local Signs 82
— Mild 83
— Relapsing 88
— Removal of Appendix between Attacks 90
— Symptoms of 89
— Treatment 83
— use of Leiter's Coil in 84
— with Abscess Formation 84
— — Operation for 85
Aristol in Uterine Cancer 153
Army Medical Department 662
Aromatic Vinegar in Urticaria 565
Arsenic 7
— in Alopecia Areata 68
— — Anæmia 72
— — Angina Pectoris 78
— — Bright's Disease 137
— — Bromide Acne 249
— — Chorea 161
— — Epilepsy 252
— — Epithelioma 256
— — Erythromelalgia 259
— — Herpes 336
— — Infantile Diarrhœa 187
— — Lupus Vulgaris 414
— — Neuritis 437
— — Sarcomatosis Cutis 507
— Bromide in Cancer 148
— Yellow Sulphide of, in Hypertrichosis 342
Arsenical Liquor in Pemphigus ... 457
Arsenicalis Liq. for Verruca 579
Arsenious Acid in Cancer ... 149, 151
Arthritis, Tuberculous 392
Asaprol as an Antipyretic 11
— in Asthma 11
— — Boils... 11
— — Influenza 11
— — Pneumonia 11
— — Rheumatism 11
— — Sciatica 11
— — Tonsillitis 11
— — Typhoid Fever 11
Ascites 95
— Faradisation for 96
— Iodide of Potassium in 96
Asepsis in Lung Disease 412
Asphyxia 96
Asthenoxia 96
Asthma 98
— Analgen in 9
— Asaprol in 11
— Atropine in 98

Asthma, Calisthenics, Electricity and Massage in 99
— Morphine in 98
— Nitro-glycerine in 98
— Nourishing Diet in 98
— Rarefied Air in... 99
— Rest Important in 98
— Strychnine in 98, 99
Atheroma, Nerium in 24
Atheromata 100
Atrophic Pharyngitis 461
— Rhinitis 441
— — Myrrholin in 23
Atropine in Asthma 98
— — Bradycardia 324
— — Enuresis of Children 247
— — Heat Stroke 329
— — Neuralgia 434
— — Sea Sickness 513
— — Vomiting 581
— and Morphia in Pneumonia ... 478
Aural Disease 201
— — Intratympanic Operations ... 224
— Tuning Fork 203
Auscultation in Lung Disease 412
Autometric Stopper 615

BARLING, G., *p.* 80; Bull, Wm. T., 89
Beta Naphthol in Pernicious Anæmia 74
— — — Typhoid 555
Balsam of Peru, Dressing for Bubo ... 141
— — — in Laryngeal Phthisis ... 404
Bandages 624
Bath, Hot-air, in Morphinomania ... 426
Baths in Epilepsy 249
— for Mercurial Tremor 551
Bed-pan 616
Bed-rest 616
Bed-sores 100
Beef Meal 6c2
Belladonna for Bladder Incontinence 109
— in Chronic Constipation 169
— — Enuresis of Children 247
— — Infantile Diarrhœa 185
— — Neuritis 437
— — Vaginodynia 576
Benzanilide as an Antipyretic 12
Benzine in Scabies 508
Benzoate of Mercury for Bubo... ... 141
— — Sodium 12
— — — in Bright's Disease 13
— — — — Bronchitis 12
— — — — Gravel 13
— — — — Laryngitis & Sore Throat 12
— — in Typhoid 555
Benzoin in Pertussis 458
Benzosol in Diabetes 181
Benzoyl-Guaiacol in Diabetes 181
Beri-beri, Digitalin in 100
— Nitro-glycerine in 100
Bicarbonate of Soda in Hæmatemesis 310
Bichlorhydrate of Quinine in Malaria... 417
Bichloride of Mercury for Bubo ... 142
— — — — Chloasma 157
— Solution in Salpingitis 507
— — — Otorrhœa 233
Bichromate of Potassium 33
Bile-ducts, Surgery of 302
Biliary Lithiasis 406
Bismuth for Bromide Acne 349
— in Dysentery 198
— — Infantile Diarrhœa ... 184, 187
— — Typhoid 555
— Salts in Pernicious Anæmia... ... 74
— Subnitrate in Cardialgia 532
Black Coffee in Diabetes... 181
Bladder Retention, Nux Vomica for ... 109
— — Remedied by Pressure 564
— Incontinence, Belladonna in ... 109
— Irritation, Antiseptic Solution for ... 108
— — Carbolic Acid and Iodine in ... 108
— — Cocaine in 108
— — Nitrate of Silver in 108
— — Oil of Sandal-wood in 108
— — Salol in 108
— — Sulphate of Copper for 108
— Phenacetin in Senile Irritation ... 107
— Pichi-pichi in Irritability of... ... 32
— Resection of 105
— Rupture of 106
— Sacculated 106
— Stone in 103
— Surgery of the 100
— (Therapeutics)... 107
— Tumours 110
— — Clinical History 113
— — Diagnosis 116
— — Exhausting Hæmorrhage in ... 113
— — Injudicious Treatment 117
— — Prognosis and Treatment ... 117
Blaud's Pill in Anæmia 73
Blisters in Cholera 157
— — Salpingitis 507
Blood Transf. in Pernicious Anæmia ... 72
Boils... 123
— Asaprol for 11
— Chloral for 123
Bone, Diseases of... 123
Books (Medical) Published during the year 648
Boracic Acid in Coryza 174
— — — Enteric Fever 244
— — — Infantile Diarrhœa 186
— — Lotion in Otorrhœa 233
Borax in Epilepsy 250
— Hypodermically in Pneumonia ... 478
Boric Acid in Acne Vulgaris 58
— — — Bladder Irritation and Cystitis 108
— — — Diphtheria 191
— — — Furunculosis 301
— — — Pertussis 458
— — — Small-Pox 514
— — Solution for Herpes 336
— — — — Pityriasis of Ear 232
— — — in Puerperal Fever 491
— Lint and Lotion in Small-Pox ... 514
Boro-glyceride for Dysmenorrhœa ... 199
Bougard's Paste in Cancer 149
— — — Epithelioma 255
Bradycardia 323
— Atropine and Digitalis in 324
Brain, Surgery of 129
— and Skull, Injuries of 123
Breast, Fissured Nipples of 131
Bright's Disease, Arsenic in 137
— — Benzoate of Sodium in 13
— — Caffeine in 137
— — Cantharides in 39
— — Corrosive Sublimate in 137

Bright's Disease, Diet in 133
— — Digitalin and Ergotinine in ... 137
— — Fowler's Solution in 137
— — Insanity of... 357
— — Iron in 137
— — Mercury and Iodide in 137
— — Nitro-glycerine in 137
— — Phenocoll in 137
— — Piperazin Water for 137
— — Purgatives in 139
— — Sparteine in 137
— — Strontium in 137
— — Strophanthus in 137
— — Therapeutics of 136
— — Toxic Nephritis of 138
— — Unboiled Milk in 139
— — Vals and Vichy Water for ... 137
Bromide Acne, Arsenic for 249
— — Bismuth Salicylate for 249
— — Naphthol for 249
— in Dysmenorrhœa 199
— — Insomnia 376
— of Arsenic in Cancer 148
— — Potassium in Gonorrhœa ... 306
— — — — Menière's Disease... ... 234
— — — — Pertussis 459
— — Sodium in Epilepsy 250
— — — — Infantile Convulsions ... 172
— — — — Sea Sickness 513
— Treatment of Morphinomania ... 473
— in Aneurism 77
— — Epilepsy 251
— — Morphinomania 425
Bronchial Asthma, Analgen in... ... 9
Bronchiectasis 139
Bronchitis 139
— Acute Cocillana in 15
— Ammonia in 140
— Benzoate of Sodium in 12
— Cocillana in 139
— Eucalyptol in 20
— Oleum Succini in 24
— Terpene Hydrate in 140
Bubo, Balsam of Peru, Dressing for ... 141
— Cauterization for 141
— Compression for 141
— Iodine for 141
— Iodoform Ointment for 142
— Mercury for 141, 142
— Peroxide of Hydrogen for 141
— Sulphuric Ether for 142
Bullet Extractor 617
Burns, Carron Oil for 142
— Europhen for 142
— Glycerine for 143
— Thymol for 143
Butyl-chloral-camphor in Snake-bite... 515
— — Hydrate in Otalgia 232

CARTER, A. H. *q.* 160; Chalot, B. V. 567; Chapin, H. D., 165, 174, 185, 190, 417, 458, 475, 477, 509, 512, 515
Cachets 617
Caffeine in Bright's Disease 137
— — Heart Disease 327
— — Peneumonia 479
— — Sea Sickness 513
Calcis Iodinatæ Liq. 606
Calcium in Albuminuria 63
— — Dysmenorrhœa 199
Calcium Chloride in Pneumonia ... 479
Calculus, Renal 494
Calf Lymph 604
Calisaya Bitters 604
Calisthenics in Asthma 99
Calomel in Cholera Infantum 159
— — Cirrhosis of Liver... 406
— — Diphtheria 194
— — Enteric Fever 243
— — Infantile Diarrhœa 186
— — Pneumonia 479
— — Typhoid 554
— — Typhus 556
Calumba Tincture in Cancer 148
Camomile Infusion in Nasal Catarrh ... 443
Camphor in Gonorrhœa 306
— Injections in Œdema Pulmonum ... 412
— in Pneumonia 478
— — Typhoid 555
— — Typhus 567
— Monobrom in Enuresis of Children 247
Canada Balsam in Pityriasis of Ear ... 232
Cancer, Arsenious Acid in ... 149, 151
— Bougard's Paste in 149
— Bromide of Arsenic in 148
— Carbonate of Lime in... 148
— Caustic Potash in 150
— Chloride of Zinc in 151
— Cured by Erysipelas 149
— Marsden's Paste in 151
— Mucilage of Acacia in 149
— Petroleum in 150
— Pyrogallic Acid in 152
— Resorcin in 152
— Salicylic Acid in 152
— Testicle Juice in 149
— Tincture of Calumba in 148
— of Rectum 494
— — Stomach 532
— — — Chlorate of Soda in 532
— Sub-maxillary 143
— Uterine 152
Cantharides Tincture in Albuminuria ... 62
— in Chronic Cystitis 109
— — Enuresis of Children 247
— — Toxic Nephritis 139
Capsicium and Menthol Ointment ... 624
Carbolate of Soda in Pertussis 459
Carbolic Acid in Alopecia Areata ... 68
— — — Anthrax... 79
— — — Diphtheria 191, 195
— — — Dysmenorrhœa 199
— — — Enteric Fever 243
— — — Fissured Anus 80
— — — Lupus Vulgaris 416
— — — Pertussis 458
— — — Scarlatina 509
— — Pure in Puerperal Fever ... 491
— — Pills in Typhoid 555
— — for Verruca 580
— — and Iodine in Bladder Irritation 108
— Injection for Tonsillitis 547
— Lotions in Leprosy 405
— Solution for Herpes 336
Carbon Dioxide in Pertussis 458
Carbonate of Amm. in Dysentery 197, 198
— — Lime in Cancer 148
— — Potash in Anæmia 72
— — Soda in Diabetes 178
— — — and Citric Acid in Epilepsy 251

Carbuncle, Cyanide Gauze for 154
Carcinoma of Throat 540
— — — Iodide of Potassium in ... 539
Cardiac Diseases 318
— Disease, Chloralose in 14
— — Nerium in 24
Cardialgia, Bismuth Subnitrate in ... 532
Carron Oil for Burns 143
Cascara Sagrada in Menière's Disease 234
Castor Oil for Worms 581
Castration in Enlarged Prostate ... 482
Cataleptic Stupor 358
Cataphoresis in Sycosis 533
Cataract 155
— Extraction 260
— Operation, Particulars of 267
Catarrh 155
Catheter, Eustachian 217
Catheters 618
Caustic Potash in Cancer 150
— — — Epithelioma 254
Cauterization in Bubo 141
Cautery for Fissured Anus 80
— — Hypopyon Ulcer 283
— Paquelin's in Hypertrophied Tonsil 548
Cellulitis, Idiopathic Prevesical ... 106
Cerebral Compression 126
— Hæmorrhage 312
— — Galvanism in 312
— — Strychnia in 312
Cerebrine in Locomotor Ataxia ... 409
Cerium Oxalate in Sea Sickness ... 513
Chancre 155
— Chloral Hydrate for 156
— Circumcision for 155
Charcoal in Typhoid 555
Chloasma, Bichloride of Mercury for 157
— Electricity for 157
— Iodoform Pencil for 157
— Uterine 156
Chloral for Boils 123
— in Eclampsia 172, 490
— — Furunculosis 301
— — Insomnia 376
— — Pneumonia 477
— — Typhus 557
Chloralamid for Sleeplessness of Chorea 162
Chloral-hydrate in Alcoholism 65
— — for Chancre 156
— — in Infantile Convulsions 172
— — for Sleeplessness of Chorea ... 162
— — in Snake-bite 515
Chloralose as a Hypnotic 13
— in Chorea, Dyspepsia, and Epilepsy 13
— — Heart Disease 14
— — Hysteria 13
— — Neurasthenia 14
Chlorate of Potash in Leprosy 405
— — Soda in Cancer of Stomach ... 532
Chlor-hydrate of Hyoscine in Insanity 375
Chlor-hydro-Sulphate of Quinine ... 36
Chloride of Iron in Diphtheria 190
— — Sodium in Lupus Vulgaris ... 414
— — Zinc in Cancer 151
— — — — Gonorrhœa 306, 307
— — — Paste in Epithelioma ... 255
— — — Solution in Supp. Tonsillitis 549
Chlormethyl in Neuralgia 434
Chlorobrom in Sea Sickness 513
Chloroform 7
Chloroform in Aneurism 77
— — Enteric Fever 243
— — Neuritis 437
— — Pneumonia 478
— — Snake-bite 515
— Water in Diarrhœa 182
— — — Morphinomania 426
Chlorosis, Piscidia Erythrina in ... 32
— Sulphur in 73
Choledochostomy 302
Choledochotomy 303
Cholelithiasis 303
Cholera 157
— Ammonio-tetra-sulphate of Potassium in 158
— Blisters in 157
— Cocaine in 157
— Epidemic 593
— Hospitals Act (Ireland) 1893 ... 583
— Pilocarpine in 158
— Quinine and Strychnine in 157
— Infantum 159
— — Antipyrin in 159
— — Calomel in 159
— — Hydrochloric Acid in ... 159, 160
— — Pepsine in 159
— — Tannic Acid Injections for ... 160
Cholesteatoma 221
Chorea 160
— Alcohol for Prostration of 163
— Arsenic in 161
— Chloralamid for Sleeplessness of ... 162
— Chloral-hydrate for Sleeplessness of 162
— Chloralose in 13
— Cod Liver Oil in 161
— Constipation of 161
— Delirium of 163
— Extract of Malt in 161
— Faradism for Paralysis of 164
— Hyoscine Hydrobromate for Insomnia 162
— Laudanum for Sleeplessness of ... 162
— Massage in 161, 164
— Paraldehyde for Sleeplessness of ... 162
— Paralysis of 164
— Pot. Bromide for 162
— Prostration of 163
— Salicylate of Soda in 162, 164
— Sponge Bath for Sleeplessness of ... 162
— Strychnia for Paralysis of 164
— Sulphate of Strychnine in 166
— Swedish Exercises in 164
— Sweet Almond Oil Inunction for ... 161
— Warm, Wet-sheet Pack for 163
Choroiditis 166
Chromic Acid in Diphtheria 194
— — — Hay Fever 318
— — — Hypertrophic Rhinitis ... 445
Chronic Cystitis, Corrosive Sublimate in 108
— — Ergot in 109
— Diarrhœa 184
— Mania 355
— Melancholia 350
Chrysarobin in Alopecia Areata ... 68
— in Eczema 235
— — Hæmorrhoids 315
— — Tinea Trichophytina 544
— Pencils for Eczema 237
Chrysophanic Acid in Psoriasis ... 489

Cimicifuga in Spermatorrhœa 516
Cinchonidine Sulphate in Malaria ... 418
Cinnamon Essence in Alopecia Areata 68, 69
— in Hæmaturia 310
Cinnamylic Acid in Lupus Vulgaris ... 416
Circulatory System in Rheumatoid Arthritis 504
Circumcision for Chancre 155
Cirrhosis of Liver 406
— — — Calomel in 406
— — — Chlorate & Iod. of Potass. in 406
— — — Copaiba in 406
— — — Hippurate of Calcium in ... 406
— — — Milk Diet in 406
Citric Acid in Epistaxis... 253
Climacteric Insanity 352
Clove Essence in Tuberculosis... ... 552
Club Foot 166
— — Anatomy of 166
Coca... 604
— in Morphinomania 425
Cocaine in Angina Pectoris 79
— — Bladder Irritation... 108
— — Cholera 157
— — Diabetes 179
— for Fissured Nipples... 131
— — Laparotomy 50
— in Morphinomania 427
— — Nasal Catarrh 443
— — Small Pox 514
— Hydrochlorate for Fissured Anus... 80
— Hydrochloride in Otitis 233
— Solution in Coryza 173
Cocainization in Laryngeal Phthisis ... 404
Cocillana 14, 605
— in Acute Bronchitis 139
— — Bronchitis 15
— — Hyperæmia of Mucous Membrane 15
— — Pulmonary Disease 15
Codeine in Diabetes 179
— — Morphinomania 424
— Sulphate in Morphinomania ... 427
Cod Liver Oil in Chorea 161
— — — — Lupus Vulgaris 414
— — — — Rheumatoid Arthritis ... 506
Coffee, Black, in Diabetes 181
— — — Œdema Pulmonum 411
Cold Bath in Enteric Fever ... 242, 553
— Foot-bath in Congestive Headache 318
— Spray in Heat Stroke 330
Colic, Hepatic 330
Collinsonia Canadensis 605
Collodion in Alopecia Areata 68
— — Pityriasis of Ear 232
Colon, Ulceration of 383
Compresses, Warm, in Epilepsy ... 249
Compression for Bubo 141
— Cerebral 126
Confusional Insanity 359
Congenital Hernia 333
Congestion of Liver 407
Congestive Headache, Cold Foot-bath in 318
Conium in Vaginodynia 576
Constipation, Belladonna in 169
— of Chorea 161
— Chronic, Oil Enemata for 169
— Electricity in 171
— Hyoscyamus in 169
— Nervous 171
Contagious Diseases (Animals) Act 583
Contraction of Muscles 428
Convulsions, Infantile 172
— — Sodium Bromide in 172
— — Chloral Hydrate in 172
— Puerperal 172
— — Chloral for 172
— — Milk Diet for 172
Convulsive Tic 543
Copaiba in Cirrhosis of Liver 406
— — Gonorrhœa 307
Copper Phos. in Tuberc. Arthritis ... 392
— Sulphate in Bladder Irritation ... 108
— — for Fissured Anus 80
Cornea, Hypopyon Ulcer of 283
Coronilla in Heart Disease 328
Corrosive Sublimate in Acne Vulgaris 58
— — — Bright's Disease 137
— — — Chronic Cystitis 108
— — — Diarrhœa 183
— — — Diphtheria 195
— — — Infantile Diarrhœa 187
— — — Pneumonia 478
— — — Tubercular Arthritis... ... 393
— — Tablets 605
Coryza 173
— Boracic Acid in 174
— Cocaine Solution in 173
— Gelsemium and Morphia in ... 173
— Talc in 174
Cough 174
Creasote in Angina Pectoris 78
— — Infantile Diarrhœa 185
— — Laryngeal Phthisis 404
— — Phthisis 465
— — Scrofula 512
— — Sea-sickness 513
— for Vomiting during Anæsthesia ... 75
Creolin in Abortion 53
— Solution for Fissured Nipples ... 131
Cretinism 174, 373
— Thyroid Extract in 174
Croton Chloral in Diabetes 179
— Oil in Alopecia Areata 68
— — — Tinea Trichophytina... ... 544
Croup, Chloral Hydrate for 174
— Iodine Tincture for 175
— Spasmodic ... ... — ... 174
— Valerian for 174
Cubebs in Gonorrhœa 307
Cupping in Sciatica 511
Curetting in Puerperal Fever 491
— for Dysmenorrhœa 109
Cutaneous Stimulants in Albuminuria 62
Cyanide Gauze in Carbuncle 154
Cycling in Morphinomania 426
Cystitis 175
— Chronic, Boric Acid in 108
— — Cantharides in 109
— Microbe of 101
— Nitrate of Silver in 109
— Nodular... 100
— Pichi-pichi in 32
— Senile, Salicylic Acid in 109
— Sublimate Solution in 110
Cystoscope in cases of Renal Calculus 495
Cystotomy, Drainage after 105
— Intraperitoneal 52
— Suprapubic 103
Cysts of Mesentery 419

DEAFNESS, Nerve 205, 222
— Obstructive 205
Delirious Forms of Insanity 356
Delirium Acute 356
— of Chorea 163
— Febrile 345
— Tremens 356
— of Young Children 357
Delusional Insanity 360
— Melancholia 349
Dementia Acute 358
— Alcoholic Primary 364
— Organic 363
— Puerperal 364
— Senile 363
— Simple Primary 362
— Syphilitic 364
— Terminal 365
Dermatitis, Phenocoll in 30
Dermatol in Otorrhœa 233
Diabetes 175
— Antipyrin in 179, 181
— Benzosol and Benzoyl Guaiacol in .. 181
— Black Coffee in 181
— Bromide of Ammonium in 179
— Carbonate of Soda in... 178
— Cocaine in 179
— Codeine in 179
— Croton Chloral in 179
— Diet for 177, 179
— Hyoscyamus in 179
— Liquor Potassæ for 178
— Morphine in 179
— Nitro-hydrochloric Acid in 179
— Opium in 179
— Pancreatic Preparations in 180
— Peroxide of Hydrogen in 179
— Phosphoric Acid in 179
— Quinine in 179
— Salol in 181
— Soya Beans for 39
— Strychnine in 179
— Syzygium Jambolanum in 180
— Thymol in 181
— Vichy-water in 180
— Zymin in 181
Diabetic Foods 601
Diaphtherin as an Antiseptic 18
Diarrhœa, Chloroform-water in ... 182
— Corrosive Sublimate in 183
— Faradic Current in 182
— Lactic Acid in 182
— Chronic 184
— (Hill), Bicarbonate of Soda in ... 183
— — Oxide of Zinc and Rhubarb in ... 183
— Infantile 184
— — Arsenic in 187
— — Belladonna in 185
— — Bismuth in 184
— — Boracic Acid in 186
— — Calomel in 186
— — Corrosive Sublimate in 187
— — Creasote in 185
— — Galvanism in 185
— — Hot Water in 186
— — Hydrochloric Acid in 185
— — Lactic Acid in 184
— — Opium in 184, 187
— — Peroxide of Hydrogen in ... 189
— — Podophyllin in 187
Diarrhœa, Infantile, Purgatives given to Mother 187
— — Salol in 185, 186
— — Subnitrate of Bismuth in ... 187
— — Suitable Foods for 188
— — Sulphate of Magnesium in ... 187
— Thymol in 186
— — Vegetable Milk in 189
— Tubercular 181
Diet in Chronic Bright's Disease ... 133
— Rules for Obesity 450
Dietary for Diabetes 179
Dietetic Preparations 601
Digestive Organs in Rheum. Arthritis 504
Digitaline in Angina Pectoris 79
— — Beri-beri 100
— — Bright's Disease 137
— — Enuresis of Children 247
Digitalis in Alcoholism 67
— — Angina Pectoris 78
— — Bradycardia 324
— — Hæmatemesis 310
— — Morphinomania 425
— — Œdema Pulmonum 412
— — Pertussis 458
— — Pneumonia 478, 479
— — Scarlatina 509
— — Uræmia 559
Dilatation for Dysmenorrhœa 199
— of Uterus 566
Diphtheria 190
— Boric Acid in 191
— Calomel in 194
— Carbolic Acid in 191, 195
— Chlorate of Potash in 193
— Chloride of Iron in 190
— Chromic Acid in 194
— Corrosive Sublimate in 195
— Differential Diagnosis of 192
— Essence of Turpentine in 194
— Hydrogen Dioxide in 195
— Intubation in 192
— Iron Perchloride in 191
— Lime-water in 195
— Mercurial Ointment in 194
— Nitrate of Silver in 191
— Peroxide of Hydrogen in ... 191, 195
— Petroleum in 195
— Pilocarpin in 190
— Pyoktanin in 191
— and Sanitation 597
— Sodium-Sozoiodol in 193
— Sublimated Sulphur in 193
— Tannic Acid in... 194
Diseases of Ear 201
— — Joints 384
— — Larynx 401
— — Lungs 411
— — Nose... 437
— — Pharynx 460
— — Throat 539
— — Vagina 572
Disinfectants, Lysol 22
— New 585
Disinfectors, Automatic 589
Diuretics in Toxic Nephritis 139
— — Uræmia 62
Diuretin 18
— in Dropsy 19
— — Heart Disease 327

Douches, Hot, for Dysmenorrhœa ... 199
Drain Testers 587
Drainage in Abdominal Surgery ... 48
— after Cystotomy 105
— Tubes 626
Drastics for Uræmia in Albuminuria ... 62
Dresser's Table 619
Dressing, Surgical (Wearne Clarke) ... 625
Dropsy, Diuretin in 19
Duboisin 319
— in Acute Mania 20
— — Insanity 19, 372
— — Maniacal Excitement 419
— — Paralysis Agitans 19, 457
Dusting Powder 606
Dysentery 197
— Acetate of Lead and Bismuth in ... 198
— Carbonate of Ammonium in... 197, 198
— Enemata in 198
— Lactic Acid in 198
— Morphine in 197
— Nitrate of Silver in 198
— Quinine in 197, 198
— Tannic Acid in... 198
Dysmenorrhœa 199
— Alkaline Salts for 200
— Antipyrin in 199
— Apioline in 11
— Boro-glyceride Tampons for ... 199
— Bromides in 199
— Calcium in 199
— Carbolic Acid for 199
— Curetting for 199
— Dilatation for 199
— Galvanism for 199
— Hot Douches for 199
— Hyoscyamine for 200
— Iodised Phenol for 139
— Irrigation for... 200
— Leeching for 199
— Pessaries for 199
— Piscidia Erythrina in 32
— Saline Aperients for 199
— Santonine for 200
Dyspepsia 200
— Chloralose in 13
— Oleum Succini in 24
Dyspnœa 201

EKLUND, Fr., *p.* 311.
Ear Abscess, Unrefined Honey and Rye-meal for 231
— Diseases of 201
— Disease, Discharge from 206
— — in Enteric Fever 233
— — Examination of Periotic Region 215
— — Gelle's Tests 220
— — Impairment of Hearing Power... 202
— — Inspection of External Meatus... 210
— — the Membrana Tympani ... 211
— — Rinné's and Weber's Tests ... 204
— — Vertigo in 208
— Eczema of 232
Ear, Intratympanic Operations of ... 224
— Physical Examination of 209
— Pityriasis of 232
— Therapeutics of 231
Eau de Cologne in Obesity 450
Eccentricity *versus* Insanity 345
Eclampsia 172
Eczema, Alumnol in 8
— Cheap Zinc Paste for... 237
— Chrysarobin in... ... ... 235, 237
— of Ear, Iodol for 232
— Gutta-percha Tissue for the Hands 236
— of Hands and Fingers 234
— — — Tar for 238
— Lead Paste for 237
— Losophan in 22
— Myrrholine in 23
— Resorcin for 238
— Sulphur Ointment in 235
— Zinc Sulphur Paste for 237
Elbow-joint Disease 387
Electric Ophthalmia 279
— Souffle in Neuritis 487
Electrical Sanitation 595
Electricity in Amenorrhœa 71
— — Articular Rheumatism 502
— — Asthma 99
— — Chloasma 157
— — Constipation 171
— — Diarrhœa 182
— — Epithelioma 256
— — Psoriasis 488
Electrolysis in Hypertrichosis 381
Electrotherapy in Alcoholism 66
Encephalitis 240
— Iodide of Potassium for 240
— Leeches for 240
Endocarditis Malignant... 323
Endometritis 240
— Drainage of Uterus for 240
— Ichthyol for 241
— Iodoform Guaze for 240, 241
— Method of Diagnosis... 241
Enema Nozzle 621
Enemas 621
Enemata in Abdominal Injuries ... 171
— — Dysentery 198
— for Worms 582
Enlarged Pharyngeal Tonsil 460
Enterectomy 379
Enteric Fever 242
— — Alcohol in 244
— — Boracic Acid in 244
— — Calomel in 243
— — Carbolic Acid in 243
— — Chloroform in 243
— — Cold Bath Treatment 242
— — Ear Disease in 233
— — Methylene Bichloride in... ... 244
— — Purgative for 244
— — Salol for 244
— — Sulphate of Magnesia in .. 243
— — Tincture of Iodine in 243
Enteroclysis 4
— in Indigestion of Infants 185
Enteroplexy 378
Enteroptosis 245
Enuresis of Children, Atropine in 246, 247
— — — Belladonna in 247
— — — Bicarbonate of Sodium in ... 248
— — — Camphor Monobrom in ... 247
— — — Cantharides in 247
— — — Digitaline in 247
— — — Ergotin in 247
— — — Hyoscine Hydrobromate in... 247
— — — Sparteine in 247
— — — Strophanthine in 247

Enuresis of Children, Strychnia in ... 247
Epidermin 20
Epididymitis, Nitrate of Silver in ... 249
Epilepsy 249
— Alkaline Baths in 250
— Arsenic in 252
— Borax in 250
— Bromides in 251
— Bromide of Potassium in 249
— Bromide of Sodium in 250
— Chloralose in 13
— Cold Baths in 249
— Iron in 252
— Neurotomy for 252
— Nitro-glycerine in 250
— Operative Treatment 252
— Opium in 249
— Pasteur's Treatment in 251
— Sodium Carb. and Citric Acid in ... 251
— Warm Compresses in... 249
Epileptic Mania 356
Episcleritis, Scopolamine in 38
Epistaxis, Antipyrin in 253
— Citric Acid for... 253
Epithelioma, Arsenic in 256
— Bougard's Paste in 255
— Caustic Potash for 254
— Chloride of Zinc Paste in 255
— Cutaneous 254
— Electricity in 256
— Phenic Acid in... 30
— Pyrogallic Acid in 255
— of Soft Palate 539
Ergot in Acne Rosacea 57
— — Chronic Cystitis 109
— — Lying-in Cases 565
Ergotin in Enuresis of Children ... 247
— — Menière's Disease 233
— — Sea-sickness 513
Ergotinine in Bright's Disease... ... 137
Erosions, Alumnol for 8
Erysipelas 256
— Alumnol for 9
— as a Cure for Cancer 149
— Guaiacol in 257
— Ichthyol in 256
— Nitrate of Aconitin in 256
— Ortho-bromo-phenol in 257
— Para-chloral-phenol in 257
— of Pharynx 461
— Phenocoll in 30
— Thiol in 256
— Turpentine Essence in 257
— White Vaseline in 256
Erythema Induratum of Bazin ... 258
Erythromelalgia 258
— Antifebrin and Antipyrin in... ... 259
— Arsenic in 259
— Faradisation in 259
— Morphia in 259
Essence of Turpentine in Diphtheria... 194
Ether in Pneumonia 479
Ethylate of Sodium for Paget's Disease 132
— — — in Psoriasis 488
Eucalyptol in Bronchitis and Pulmonary Affections 20
Eucalyptus Oil 606
Euphorbia Pilulifera 20
Europhen for Burns 142
— in Leprosy 406
Europhen in Psoriasis 488
— — Ulcer 557
Eustachian Catheter 217
— Tubes, Examination of 217
— — Inflation of 219
Exalgine in Neuralgia 434
Exercises in Locomotor Ataxia ... 409
Exophthalmic Goitre 259
— — Rest and Strophanthus Tinct. in 260
Expansive Syphilitic Insanity 356
Extracts, Organic... 25
Eye, Diseases of 260
— Operations, Antiseptics, in 270
— Skin Grafts for Affections of Lids... 285
— Tumours 277
Eyelids, Abnormal Movements of 273, 276

FENWICK, E. H., *pp.* 100, 110, 310, 393, 481, 491, 559, 561, 563; Fox, T. C., 57, 68, 254, 256, 258, 293, 301, 336, 341, 413, 457, 471, 487, 507, 533, 543, 557, 564 578; Frost, E., 573.
Facial Expression in Insanity 344
Faradic Current in Diarrhœa 182
Faradisation in Ascites 96
— — Erythromelalgia 259
— — Morphinomania 426
Faradism for Paralysis of Chorea ... 164
Fauces, Diagnosis of Cancer of ... 539
Febrile Delirium 345
Felix Mas (Emulsion) 606
Femoral Hernia, Radical Cure of .. 333
Fever, Enteric 242
Fevers and Eruptions 288
— Simple and Infectious, Diagnosis 289
Filariasis and Filariosis 293
— Thymol in 294
Fissured Nipples 131
Flat-foot 294
— Exercise for 295
Folie à deux 362
— du doute 360
— Raisonnante Melancholic 351
Follicular Tonsillitis, Antiseptic Spray for 547
— — Diagnosis 192
Foot Extension, Patent 614
— Morton's Affection of 295
— Baths, Warm, in Amenorrhœa ... 71
Forceps used in Pityriasis of Ear ... 232
Forms of Psychical Defect 369
Fowler's Solution in Angina-Pectoris .. 79
— — — Bright's Disease 137
Fractures 295, 297, 392
Friar's Balsam for Ulcer 557
Fuchsine Ointment in Paget's Disease 132
Furunculosis, Alumnol Plasters in ... 301
— Boric Acid in 301
— Chloral in 31

GARROD, Sir Alf. B., *p.* 501; Grant, J. Dundas, 201.
Gallanol in Psoriasis 488
Gall-bladder, Surgery of 302
— Stones and Intestinal Obstruction 303
Galton's Whistle 204
Galvanism in Alcoholism 65
— — Cerebral Hæmorrhage 312
— — Dysmenorrhœa 199
— — Follicular Tonsillitis 547
— — Infantile Diarrhœa 185

Galvanism in Neuritis 437
— — Urticaria 565
— — Morphinomania 426
Galvano-Cautery in Chronic Rhinitis 414
— — Hay Fever 318
— — Pharyngo-Mycosis 460
— — Tuberc. Ulceration of Pharynx... 461
— Cauterizations in Laryngeal Phthisis 404
Gangrene Pneumonic 480
Gangrenous Hernia 335
Gastralgia 304
Gastric Lavage in Hiccough 336
— Ulcer 304, 531
— — Glycozone in 531
— — Nitrate of Silver in 531
Gastro-Enterostomy 529
— Faradization in Stomach Disorders 530
Gastro-Intestinal Catarrh 304
Gastropexia 528
Gellé's Tests in Aural Disease 220
Gelsemium in Coryza 173
General Paralysis... 366
Gleet 304
Glycerine for Burns 143
Glycozone in Gastric Ulcer 531
Goitre 304
— Exophthalmic 259
Gonorrhœa... 305
— Aborted by Permanganate of Potash 308
— Ammonium Sulph-Ichthyolate in ... 305
— Antipyrin in 306
— Bromide of Potassium in 306
— Camphor in 306
— Chloride of Zinc in 306
— Copaiba and Cubebs in 307
— Ichthyol in 307
— Llareta in 307
— Lupulin in 306
— Lysol in... 308
— Monobromate of Camphor in ... 306
— Oil of Sandal and Peppermint in ... 307
— Permanganate of Potassium in ... 306
— Phenocoll in 30
— Pichi-pichi in 32
— Resorcin in 307
— Salol in 307
— Sandalwood Oil Capsules in ... 306
— Silver Nitrate in 305, 306
— Solution of Tannin in 307
— Sublimate in 305
— Sulphate of Thallin in 306
— Sulpho-carbolate of Zinc in... 306, 307
Gonorrhœal Ophthalmia 308
Gout... 308
— Intestinal, Salicylate of Soda in ... 309
— and Rheumatoid Arthritis 501
Grafts of Skin for Affections of Eyelids 285
Granular Lids 309
— Pharyngitis 461
Gravel, Benzoate of Sodium in ... 13
Graves' Disease, Insanity of 355
Grey Substance of Sheep's Brain for Neuralgia 435
Grip for Fastening Binders 612
Guaiacol in Erysipelas 257
— — Phthisis 465
Gun-shot Wounds of Abdomen ... 51
Gutta-percha Tissue for Eczema ... 236
Gymnastics in Articular Rheumatism 500
— — Mercurial Tremor 551

HAMILTON, J. B., *p.* 428; Hammond, G. M., 165, 169, 172, 249, 259, 312, 329, 343, 376, 409, 419, 429, 432, 435, 436, 457, 493, 510, 515, 537; Hanford, H., 309; Hare, H.A., 1.

Hæmatemesis 309
— Bicarbonate of Soda and Digitalis in 310
— Nux Vomica in 310
— Sulphate of Iron in 310
— — — Magnesia and Soda in ... 310
Hæmatoma, Cinnamon in 210
Hæmaturia... 310
Hæmoptysis 311
— Acetate of Lead and Morphia in ... 312
— Effect of Ice in 311
Hæmorrhage, Cerebral 312
— — Galvanism in 312
— — Strychnia in 312
— Post-partum 313
Hæmorrhoids 314
— Chrysarobin in 315
Hallucinatory Insanity 358
Harelip 316
Hay Asthma and Fever 317
— — Chromic Acid for 318
— — Galvano-Cautery for 318
— — Mono-Chloracetic Acid in ... 318
Headache 318
— Congestive 318
— — Cold Foot-bath in 318
— Tolypyrin in 47
Hearing Better in a Noise 205
— Power, Impairment of 202
Heart, Disease of 318
— — Caffeine in 327
— — Chloralose in 14
— — Coronilla in 328
— — Diuretin in 327
— — Morphine and Ether in 327, 328
— — Piscidia Erythrina in 328
— — Position during Examination ... 325
— — Theobromine in 326
— — Therapeutics of 326
Heat Stroke 329
— — Ammonia in 329
— — Amyl Nitrite in 329
— — Atropine in 329
— — Cold Spray in 330
— — Morphine in 329
— — Strychnine in 329
Hectic Fever 330
Helianthus in Malaria 418
Hepatic Abscess 408
— Colic 330
Hepatica Triloba 606
Hernia 331
— Abdominal Section for 335
— Congenital 333
— Femoral, Radical Cure of 333
— Gangrenous 335
— Radical Cure 331
— Umbilical Radical Cure of 331
— of Vermiform Appendix 334
Herpes 336
— Arsenic in 336
— Boric Acid & Carbolic Solutions for 336
Hiccough, Gastric Lavage for 336
— Oleum Succini in 24
Hill Diarrhœa 183
Hip-joint Disease 389

Hip-Joint Operation 336
— — Paralytic Luxation 391
Hippurate of Calc. in Cirrhosis of Liver 406
Homes for Inebriates 643
Honey of Iron in Amenorrhœa ... 71
— and Rye-meal in Ear Abscess .. 231
Hot-air Baths in Anæmia 73
— — — — Morphinomania 426
— Pack in Morphinomania 427
— Water in Infantile Diarrhœa ... 186
— — useful in Alcoholism 66
— Packs in Maniacal Excitement ... 419
Housing of Working Classes Act (1893) 583
Hydrarg. Perchlor. in Alopecia ... 68
Hydrastin in Psoriasis 488
Hydrocele 340
Hydrochloric Acid, Dil. in Anæmia ... 72
— and Orange peel in Angina Pectoris 78
— — in Cholera Infantum ... 159, 160
— — — Infantile Diarrhœa 185
Hydrogen Dioxide in Diphtheria ... 195
— Peroxide 4
— — in Alopecia Areata 68
— — — Bubo 141
— — — Diabetes 179
— — — Diphtheria 191, 195
— — — Infantile Diarrhœa 189
Hydropathic Establishments 644
Hydrotherapy in Alcoholism 66
— — Articular Rheumatism 500
— — Nervous Diseases... 432
Hyoscine 3
— in Morphinomania 426
— — Typhus 557
— Chlor-hydrate of, in Insanity ... 375
— Hydrobrom. in Enuresis of Children 247
— — for Sleeplessness of Chorea ... 162
Hyoscyamus in Chronic Constipation... 169
— — Diabetes 179
— — Dysmenorrhœa 200
— — Insomnia 376
— — Maniacal Excitement 419
Hyperæmia of Mucous Membrane, Cocillana in 15
Hyperalimentation in Mania 410
Hyperemesis Gravidarum 341
Hyperidrosis 341
Hypertrichosis 341
— Electrolysis in 341
— Quicklime and Arsenic in 342
— Yellow Sulphide of Arsenic in ... 341
Hypertrophic Rhinitis 441
Hypertrophy of Lingual Tonsils ... 549
— — Tonsils 547
Hypnotic, Chloralose as an 13
Hypochondriacal Melancholia 350
Hypodermic Case 619
Hypomania 352
Hypopyon Keratitis 342
— Ulcer of Cornea 283
Hysteria 343
— Chloralose in 13
— Oleum Succini in 24
Hysterical Aphonia 491
— Insanity 355, 362

ICE, Effect of in Hæmoptysis ... 311
Icthyol in Acne Rosacea 58
— — Diseases of Uterus 565
— — Endometritis 241
Icthyol in Erysipelas 256
— — Gonorrhœa... 327
— Lanolin Salve for Fissured Nipples 131
— Suppositories in Prostatitis 486
Idiocy 369
Idiopathic, Prevesical Cellulitis ... 106
Iliac Arteries, Ligature of 51
Imbecility 372
— Moral 373
Impulsive Insanity 360
Incontinence of Urine 563
Indian Hemp in Insomnia 376
Indigestion of Infants, Enteroclysis in 185
Induction of Premature Labour ... 398
Inebriates' Homes 643
Inebriety 343
Inertia, Uterine 401
Infants, Indigestion of 185
Infantile Convulsions 172
— Diarrhœa 184
— Syphilis 343
Inflammation of Rectum 494
Inflation of Eustachian Tube 219
— — — — Diagnostic Value of ... 220
Influenza, Asaprol in 11
— Salipyrine in 343
Influenzal Otitis 233
Ingrowing Toe-nail 545
— — — Paraffin and Tallow for ... 546
Inhalations in Laryngeal Phthisis ... 404
Inhalers 620
Injections after Labour 400
— Intra-pulmonary, in Phthisis ... 470
— of Morphine and Ether in Cardiac Dyspnœa 328
— Subcutaneous in Phthisis 470
Ipecacuanha 606
Insanity from Absinthe and Opium ... 359
— Adolescent 356
— Alkalies in 375
— Anæmic 352
— of Bright's Disease 357
— Chlor-hydrate of Hyoscine in ... 375
— Chronic Alcoholic 359
— — Hysterical 362
— Climacteric 352
— Confusional 359
— Delirious Form 356
— Delusional 360
— Duboisin in 19, 374
— Expansive Syphilitic... 356
— Facial Expression in... 344
— of Graves' Disease 355
— Hallucinatory 358
— Hysterical 355
— Impulsive 360
— Lactational 352
— Maniacal Forms of 352
— Milk Diet in 375
— Myxœdematous 365
— Naphthol in 375
— Neurasthenic 352
— of Paralysis Agitans 352
— Phthisical 362
— Podagrous 356
— Pubescent 356
— Purgatives in 375
— Rheumatic 352
— Simulated 345
— Stuporous Forms of 357

Insanity, Traumatic 352
Insomnia, Bromide in 376
— Chloral in 376
— Hyoscyamine in 376
— Indian hemp in 376
— Morphine in 377
— Sulphonal in 376
Intestinal Gout 309
— Obstruction 381
— — from Gall Stones 303
— Retractor and Diaphragm 379
— Surgery 377
Intraperitoneal Cystotomy 52
Intubation in Diphtheria 192
— *v.* Tracheotomy 403
Iodhydrargyrate of Potash in Lupus ... 415
Iodide of Potassium in Actinomycosis . 60
— — — — Ascites 96
— — — — Albuminuria 62
— — — — Encephalitis 240
— — — — Fissured Nipples 132
— — — — Pregnancy 481
— — Sodium in Lupus Vulgaris ... 414
Iodine for Bubo 141
— Glycerine in Salpingitis 507
— in Pregnancy 481
— Tincture in Croup 175
— — — Enteric Fever 243
— — — Verruca 579
— Trichloride, in Tonsillitis 547
Iodised Application in Hypertrophy of Tonsils 547
— Collodion in Tinea Trichophytina ... 544
— Phenol for Dilatation of Uterus ... 567
— — — Dysmenorrhœa 199
Iodoform in Abdominal Operations ... 48
— Gauze for Endometritis ... 240, 241
— — Tampon in Abortion 52
— Injections in Tuberculosis 552
— Ointment for Bubo 142
— — — Fissured Anus 80
— Pencil in Chloasma 157
— Pessaries in Puerperal Fever ... 491
Iodol for Eczema of Ear 232
— — Fissured Anus 80
Ipecacuanha in Alcoholism 66
— without Emetine 20
— Poultices in Snake-Bite 515
— in Typhus 556
— Wine to induce Labour 400
Iridectomy 261, 268
Iritis, Scopolamine in 38
Iron Albuminate in Anæmia ... 72, 73
— — Angina Pectoris 78
— — Bright's Disease 137
— Chloride in Diphtheria 190
— in Epilepsy 252
— with Ergot for Amenorrhœa... ... 70
— Iodide in Rheumatoid Arthritis ... 506
— and Opium in Menière's Disease ... 234
— Perchloride in Diphtheria 191
— — — Myxœdema 429
— — — Pemphigus 457
— in Puerperal Fever 491
— Sulphate in Hæmatemesis 310
— for Worms 582
Irrigation, Intestinal, in Dysmenorrhœa 200
— in Puerperal Fever 491
Irritation of Skin in Leprosy 405
Isolation Hospitals Act (1893) 584

JACKSON, F. W., *pp.* 318; Jennings, Oscar, 421; Jones, R. 166, 384, 453, 517, 550.
Jaundice, Oil of Turpentine in ... 384
— Olive Oil in 303
Joints, Diseases of.. 384

KATATONIA 352
Keratitis 393
Kidney, Neuralgia of 393
— the, in Rheumatoid Arthritis ... 503
— Stone in... 396
— Surgery of 393
— Syphilis of 398
Knee Joint, Lateral Dislocation at ... 391
Kola in Morphinomania 425
Kristaline in Acne Vulgaris ... 59

LANE, W., Arbuthnot, *pp.* 297, 336.
Labour, Induction of Premature 398
— Injections after 400
— Ipecacuanha Wine to Induce ... 400
Labyrinthitis, McDude's Mixture in ... 233
— Nitrate of Pilocarpine in 233
— Potassium Iodide in 233
Lachrymal Obstruction 401
Lactational Insanity 352
Lactic Acid in Diarrhœa 182
— — — Dysentery 198
— — — Infantile Diarrhœa 184
— — — Laryngeal Phthisis 404
— — — Lupus Vulgaris 415
— — — Tuberculous Pharynx ... 461
Lactose as a Diuretic in Albuminuria 63
Laparotomy, After Treatment of ... 49
— Suture after 48
— Under Cocaine 50
Laryngeal Phthisis 403
— — Balsam of Peru in 404
— — Cocainization in 404
— — Creasote and Galvano-Cauter. in 404
— — Inhalations in 404
— — Lactic Acid in 404
— — Menthol Injections in 404
— — Sedative Swabbings in 404
Laryngitis, Benzoate of Sodium in ... 12
Larynx, Diseases of 401
Lassar's Paste 606
Lateral Dislocation at Knee Joint ... 391
Laudanum for Sleeplessness of Chorea 162
Lead Acetate in Hæmoptysis 312
— Paste for Eczema 237
Leeches in Appendicitis.. 84
— for Encephalitis 240
— in Pneumonia 478
Leeching for Dysmenorrhœa 199
Leeter's Coil for Appendicitis 84
Legislative Sanitation 583
Leprosy 404
— Carb. Lotions and Chlor. of Pot. in 405
— Europhen in 406
— Irritation of Skin for 405
— Soft Soap in 405
Leucorrhœa, Phenocoll in 30
Lichen 406
Lids, Granular 309
Life Assurance and Obesity 450
— — Index 683
Lime, Carbonate of, in Cancer... ... 148
— Water in Diphtheria 195

Liniment for Neuralgia... 435
Liquor Arsenicalis in Pemphigus ... 457
— Potassæ in Diabetes 178
Lithia Tablets 607
Lithiasis, Biliary 406
Liver Affections, Renal Ballottement in 407
— Cirrhosis of 406
— Congestion of, Nux Vomica in ... 407
— — Succus Taraxaci in 407
— Surgery of 407
Llareta in Gonorrhœa 307
Lloyd's Food 601
Local Government Boards 662
Locomotor Ataxia, Cerebrine in ... 409
— — Exercises in 409
— — Phosphate of Soda in 409
— — Spermine in 409
Losophan in Acne Vulgaris 22
— — Eczema 22
— — Parasitic Sycosis 22
— — Prurigo 22
— — Rosacea 22
— — Sycosis Vulgaris 22
— — Tinea Tonsurans 22
— — — Trichophytina 544
Lugol's Solution for Enlarged Tonsil 461
— — in Hypertrophy of Ling. Tonsils 549
Lumbago, Oleum Succini in 24
Lunacy Boards 662
Lunatic Asylums 630
Lung Disease, Asepsis in ... 411, 412
— — Improved Auscultation in ... 412
Lupulin in Gonorrhœa 306
Lupus Erythematosus, Phosphorus in 413
— — Thilanin in 413
— Involving Destruction of Eye ... 284
— Phenic Acid in 30
— Vulgaris... 414
— — Alumnol Plaster in 416
— — Arsenic in 414
— — Carbolic Acid in 416
— — Chloride of Sodium in 414
— — Cinnamylic Acid in 416
— — Cod Liver Oil in. 414
— — Iodhydrargyrate of Potash in ... 415
— — Iodide of Sodium in 414
— — Lactic Acid in 415
— — Salicylic Acid Paste in 4 4
— — Teucrin in 42
— — Thiosinamine in 417
Lymphadenitis, Teucrin in 42
Lysol in Acne Vulgaris 59
— as a Disinfectant 22
— in Gonorrhœa 308

MACDONALD, Greville, *pp.* 60, 317; Milligan, W., 224; Mundé, Paul, F., 53.
Magnesia Sulphate in Enteric Fever ... 243
— — — Hæmatemesis 310
— — — Typhus 506
— — for Worms 581
Malaria, Bichlor-hydrate of Quinine in 417
— Cinchonidine Sulphate in 418
— Helianthus Annuus in 418
— Methylene Blue in 417
— Phenocoll in 418
— Potassium Nitrate in... 418
— Sodium Nitrate in 418
Malt *c.* Cascara 607
Malt Extract in Chorea 161
Malted Milk 602
Mammary Abscess 53
Manaca 607
Mania, Acute 353
— — Duboisin in... 20
— Chronic 355
— Epileptic 356
— Hot Wet-pack in 419
— Periodical 355
— a potu 356
— Puerperal 356
— Senile 355
— Simple 352
Maniacal Excitement, Duboisin in ... 419
— Forms of Mental Disease 352
— Hyoscyamine in 419
— Hyperalimentation in 419
Manganese, Lacto-phosph. 607
Marsden's Paste, in Cancer 151
Massage in Amenorrhœa 71
— — Articular Rheumatism 500
— — Asthma 99
— — Chorea 161
— — Mercurial Tremor 551
— — Migraine 421
— of Nose and Throat 443
— in Otalgia 232
— for Paralysis of Chorea 164
— — Varicose Veins 578
Mastitis 419
Masturbational Melancholia 351
Mattresses, Antiseptic 586
McDude's Mixture in Labyrinthitis ... 233
Measure Glass 615
Meatus, Examination of.. 210
Medical and Scientific Newspapers ... 670
— Council 661
— Societies 663
— Trades Directory 664
— Transfer Agencies 666
Melancholia, Agitated 350
— Chronic 350
— Delusional 349
— Hypochondrical 350
— Masturbational 351
— Organic... 351
— Periodical 351
— Puerperal 352
— Senile 351
— Simple 349
— Uterine 352
— Warm Baths in 432
Melancholic Forms of Insanity ... 346
— Stupor 357
Melancholy "folie raisonnante" ... 351
Membrana Tympani 211
Menière's Disease 233
— — Bromide of Potassium in ... 234
— — Cascara Sagrada in 234
— — Ergotine in 233
— — Iodide of Potassium in 233
— — Quinine in 233
— — Valerianate of Iron in 234
Menorrhagia 420
Mental Aberrations from Supra-pubic Drainage... 486
— Decay 362
— — Pareto-Ataxic Forms of 366
— Disease, Facial Expression in ... 344

Mental Disease, Melancholic Forms ... 346
Menthol in Laryngeal Phthisis... ... 404
— in Nasal Catarrh 443
— — Pruritus 487
— Camphor in Snake-bite 515
Mercurial Ointment in Diphtheria ... 164
— Tremor, Baths for 551
— — Gymnastics and Massage in ... 551
— — Nerve Tonics in 551
Mercury for Bubo... ... ... 141, 142
— in Myositis Syphilitica 429
— — Nasal Catarrh 443
— Bichloride in Chloasma 157
— and Iodide in Bright's Disease ... 137
Mesentery, Cysts of 419
— Surgery of 419
Methylene Bichlor. in Enteric Fever ... 244
— Blue in Malaria 417
Metropolis Management Act (1893) ... 584
Metrorrhagia, Vaginal Tampon for ... 420
Middle-ear Disease 222
Midwifery Forceps 623
Migraine, Massage in 421
Milk Diet for Angina Pectoris 77
— — — Cirrhosis of Liver 406
— — — Insanity 375
— — — Puerperal Convulsions 172, 489
— in Toxic Nephritis 139
— (Vegetable) in Infantile Diarrhœa... 189
Mono-chloracetic acid in Hay Fever 318
Monomania 360
Moral Imbecility 373
Morphia, Acetate of, in Hæmoptysis... 312
— in Aneurism 77
— — Coryza 173
— — Erythromelalgia 259
Morphine and Ether Injections in Cardiac Dyspnœa 328
— in Alcoholism 64
— — Asthma 98
— — Diabetes 179
— — Dysentery 197
— — Heart Disease 327
— — Heat Stroke 329
— — Insomnia 377
— — Neuralgia 434
— Hydrobromate... 22
Morphinomania 421
— Bromides in 423, 425
— Cerebral Galvanization in 426
— Chloroform Water in... 426
— Coca in 425
— Cocaine in 477
— Codeine in 424
— Cycling in 426
— Digitalis in 425
— Fairchild's Pepsine in 427
— Gradual Suppression Plan 423
— Hydrate of Amylene in 426
— Hydropathic Treatment in ... 426, 427
— Hyoscine in 426
— Immediate Suppression Plan ... 422
— Kola in 425
— Muscular Faradization in 426
— Rapid Reduction Plan 423
— Soda Bicarbonate in 426
— Sparteine in 424
— Sulphate of Cocaine in 427
— Sulphonal in 426
— Valerianate of Ammonia in 423
Morton's Affection of Foot 295
Mucous Membrane, Cocillana in Hyperæmia of 15
Mugwort in Amenorrhœa 71
Muscles, Contraction of 428
Muscular System, The, in Rheumatoid Arthritis 503
Musk in Typhus 556
Mustard and Molasses in Sciatica ... 511
Myocarditis 320
— Acute, Circumscribed and Diffuse... 321
— Chronic, Circumscribed & Diffuse 321, 322
— Piscidia Erythrina in 32
Myocardium, Nerium Od. in Disease of 24
Myopia 429
Myositis Syphilitica 428
— — Iodide of Potass. and Mercury in 429
Myrrholin in Atrophic Rhinitis ... 23
— — Eczema 24
Myxœdema, Perchloride of Iron in ... 429
— Symptoms of 430
Myxœdematous Insanity 365

NÆVUS *p.* 272.
Naphthol for Bromide Acne ... 249
— in Insanity 375
— Soaps 607
Nasal Catarrh, Alkaline Solutions for 443
— — Camomile Infusion in 443
— — Cocaine in 443
— — Menthol and Mercury for ... 443
— Douching, Cautions as to 446
— Sprays 444, 447
Naval Medical Department 662
Needle and Suture Case... 624
Nephrectomy 394
Nephritis, Cantharides in 139
— Diuretics in 139
— Purgatives in 139
— Toxic 138
— Unboiled Milk in 139
Nephrotomy 393
Nerium Odorum 23
— — in Atheroma 24
— — — Cardiac Disease 24
— — — Disease of the Myocardium 24
— — — Renal Disease 24
Nerve Deafness 205, 222
— Suture of 431
— Tonics in Mercurial Tremor ... 551
Nervous Chronic Constipation 171
— Diseases... 432
— Exhaustion 432
Neuralgia 432
— Aconitine in 434
— Agathin in 8
— Analgen in 9
— Antifebrin in 434
— Antipyrin in 434
— Atropine in 434
— Chlormethyl in 434
— Exalgine in 434
— Grey substance of Sheep's Brain in 435
— of Kidney 393
— Liniment for 435
— Morphine in 434
— Quinine in 434
— (Supra-orbital) Salophen in... ... 37
— Surgical Treatment of 432
Neurasthenia 435

Neurasthenia, Chloralose in 14
— Spinalis 436
Neurasthenic Insanity 352
Neuritis 436
— Arsenic in 437
— Belladonna in 437
— Chloroform in 437
— Electricity in 437
— Salicylates in 436
Neurotomy for Epilepsy 252
New Remedies 1
Nipples Fissured, Cocaine Solution for 131
— — Creolin Solution for 131
— — Ichthyol-lanolin Salve for ... 131
— — Iodide of Potash for 132
— — Sal Rochelle for 132
— — Thiersch Solution for 131
— — White of Egg for 132
— Paget's Disease of, Ethylate of Sodium for 132
— — — — Fuchsin Ointment for ... 132
Nitrate of Aconitin in Erysipelas ... 236
— — Mercury Acid for Fissured Anus 80
— — Silver in Bladder Irritation ... 108
— — — — Cystitis 109
— — — — Dysentery 198
— — — — Eczema of Ear 232
— — — — Fissured Anus 80
— — — — Gastric Ulcer 531
— — — — Pityriasis of Ear 232
Nitric Acid for Fissured Anus 80
Nitrite of Amyl in Aneurism 77
Nitro-Glycerin in Asthma 98
— — — Beri-beri 100
— — — Bright's Disease 137
— — — Epilepsy 250
— — — Pneumonia 478
— — — Sciatica 511
— — — Vomiting 581
— -Hydrochloric Acid in Diabetes ... 179
Nodular Cystitis 100
Nose, Diseases of... 437
— Mechanical Obstruction of 439
— and Throat, Massage of 448
Notes 673
Nursing Institutions 666
Nux Vomica 6
— — in Hæmatemesis 310
— — for Retention of Urine 109
— — in Liver Congestion 407
— — — Typhus 556
— — for Worms 582

OGSTON, A., *p.* 143.
Obesity, Diet for 450
— Eau de Cologne Sponging for ... 459
— Iodide of Potassium in 450
— and Life Assurance 450
Obsessional Insanity 359
Obstetric Bag 623
Obstructive Deafness 205
Occlusion of the Ureters 559
Œdema Pulmonum, Acetate of Lead in 412
— — Alcohol in 411
— — Black Coffee in 411
— — Camphor Injections in 412
— — Digitalis in... 412
Œsophagus 451
— Auscultation by Means of 451
— Stricture of 451
Oil of Almonds in Urticaria 565
— of Cade in Psoriasis 488
— Enemata in Chronic Constipation... 169
— of Peppermint and Sandal in Gonorrhœa 307
Oleate of Copper in Tinea Trichophytina 544
Oleum Succini 24
— — in Chronic Bronchitis 24
— — — Flatulent Dyspepsia 24
— — — Hiccough 24
— — — Hysteria 24
— — — Lumbago 24
— — — Phthisis 24
— — — Rheumatism 24
— — — Sciatica 24
— — — Whooping-cough 24
Olive Oil in Jaundice 303
Opacities of Vitreous 581
Ophthalmia, Electric 279
— Gonorrhœal 308
— Neonatorum 452
Opiatine 608
Opium (Elixir) 608
— in Alcoholism 64
— — Diabetes 179
— — Epilepsy 249
— — Infantile Diarrhœa ... 184, 187
— — Phemphigus 457
— — Pneumonia 478
Orchitis, Phenic Acid in 453
Orexin in Anorexia 95
— for Vomiting of Pregnancy 25
Organic Dementia 363
— Extracts 25, 608
— Melancholia 351
Ortho-bromo-phenol in Erysipelas ... 257
Orthopædics 453
Ossicles, Excision of in Cases of Otitis 229
Osteitis Deformans 453
Osteomalacia, Phosphorus in 454
Otalgia, Butyl-chloral-hydrate in 232, 454
— Massage in 232
Otitis, Cocaine Hydrochloric for ... 233
— Influenzal 233
— Suppurative Sequelæ of 221
— Vaseline Injections in 233
Otorrhœa, Bichloride Solution in ... 233
— Boracic Acid Lotion for 233
— Dermatol for 233
Ovaritis 454
Oxide of Zinc in Hill Diarrhœa ... 183
Oxygen Inhalation in Amenorrhœa ... 71
— — — Uræmia 559

PRIESTLEY, J., *p.* 583.
Paget's Disease of Nipple ... 132
Pancreas, Abscess of 455
— Scirrhus of 456
— Surgery of 454
Pancreatic Preparations in Diabetes ... 180
Pancreatin (Pill) 608
Para-chloral-phenol in Erysipelas ... 257
Paraldehyde 29
— for Sleeplessness of Chorea... .. 162
Paralysis Agitans, Duhoisin in 19, 457
— — Insanity of... 352
— — Sodium Borate in... 457
— of Chorea 164
— General 366

Paralytic Luxation at Hip-joint ... 391
Paranoia 360
Parasitic Sycosis, Losophan in... ... 22
Pareto-ataxic Forms of Mental Decay 366
Paroxysmal Sneezing 317
Pasteur's Treatment in Epilepsy ... 251
Patella, Fracture of 392
Pathophobia 360
Pemphigus, Liquor Arsenicalis in ... 457
— Opium in 457
— Perchloride of Iron in 457
— Quinine in 457
— Zinc Ointment in 457
Peppermint Oil in Gonorrhœa 307
Pepsine in Cholera Infantum 159
— — Morphinomania 427
— — Small Pox 514
Peptone Suppositories 608
Perchloride of Iron in Myxœdema ... 429
— — — — Pemphigus 457
Perforating Appendicitis 86
Perforations in Shrapnell's Membrane 215
— of Tympanic Membrane 214
Pericarditis, Tuberculous 318
Periodical Mania 355
— Melancholia 351
Periotic Region, Examination of ... 215
Peritoneum, Sensitiveness of 50
Permanganate of Potassium 4
— — — in Gonorrhœa 306
— — Potash in Uterine Complaints ... 566
Pernicious Anæmia 73
— — Beta-naphthol in 74
— — Bismuth Salts in 74
Peroxide of Hydrogen 4
— — — in Diabetes 179
— — — — Diphtheria 191
— — — for Infantile Diarrhœa ... 189
Pertussis, Benzoin in 458
— Boric Acid in 458
— Bromide of Potash in... 459
— Carbolate of Soda n 459
— Carbolic Acid in 458
— Carbon Dioxide in 458
— Digitalis in 458
— Oleum Succini in 24
— Quinine in 458, 459
— Resorcin in 458
— Salicylate of Soda in 459
— Sozoiodol Sodium in 459
— Sulphurated Antimony in 459
— Thymus Serpyllum in 458
Pessaries for Dysmenorrhœa 199
Petroleum in Cancer 152
— — Diphtheria 195
— — Vaginitis 573
Pharmacy, Progress of 603
Pharyngeal Abscess 461
— Tonsil Enlarged 460
Pharyngitis Atrophic 461
— Granular, Trichloracetic Acid in ... 461
Pharyngo-mycosis 460
— Anhydrous Chromic Acid in ... 460
— Chloride of Zinc in 460
— Galvano-cautery in 460
— Iodo-Iodated Zinc Solution in ... 460
Pharynx, Diseases of 460
— Erysipelas of, Cocaine in 460
— — — Ice for 461
— — — Sublimate Spray in 461
Pharynx, Tubercular, Galvano-cautery in 461
— — Lactic Acid in 461
Phenacetin in Bladder Irritation ... 107
— — Typhoid 554
Phenic Acid 30
— — in Anthrax 30
— — — Epithelioma 30
— — — Orchitis 453
— — — Phthisis 30
— — — Pustules 30
— — — Tubercular Lupus 30
— — — Urticaria 565
Phenocoll in Bright's Disease 137
— — Dermatitis 30
— — Erysipelas 30
— — Gonorrhœa 30
— Hydrochloride 30
— in Leucorrhœa 30
— — Malaria 418
Phenosalyl 608
Phosphate of Soda in Ataxia 409
Phosphoric Acid in Diabetes 179
Phosphorus... 31
— in Angina Pectoris 79
— — Lupus Erythematosis 413
— — Osteomalacia 454
Phthisical Insanity 362
Phthisis, Antiseptics in 462
— Creasote in 46;
— Disinfection of Sputum in 470
— Guaiacol in 465
— Intra-pulmonary Injections... .. 470
— Laryngeal 403
— Oleum Succini in 24
— Phenic Acid in 30
— and Sanitation 597
— Subcutaneous Injections in ... 470
Pichi-pichi in Cystitis 32
— — Gonorrhœa... 32
— — Irritability of Bladder 32
— — Prostatitis 32
Pigmentation of Skin 474
Pilocarpine in Alopecia Areata ... 69
— — Cholera 158
— — Diphtheria 190
— — Labyrinthitis 233
— — Urticaria 565
Piperazine *c.* Phenocoll 608
— in Renal Calculus 495
— Water in Bright's Disease 137
Piscidia Erythrina in Chlorosis ... 32
— — — Dysmenorrhœa 32
— — — Heart Disease 328
— — — Myocarditis 32
Pityriasis of Ear, Boric Acid in ... 232
— — — Canada Balsam in 232
— — — Collodion in 232
— — — Forceps used in 232
— — — Salicylic Acid in 232
— — — Silver Nitrate in 232
Placenta, Management of 400
Plaster, Adhesive 624
Pleurisy, Phenol Vesication for ... 475
— Salicylic Acid in 476
— Salol in 476
— Sodium Salicylate in 476
Plumbers' Registration Bill 584
Pneumonia 477
— Aconite in 478

Pneumonia, Asaprol in 11
— Atropine and Morphia in 478
— Borax Hypodermically in 478
— Caffeine in 479
— Calcium Chloride in 479
— Calomel in 479
— Camphor in 478
— Chloral in 477
— Chloride of Ammonium Inhalations 478
— Chloroform in 478
— Corrosive Sublimate in 478
— Digitalis for 478, 479
— Ether in... 479
— Hypodermic Injection for 477
— Iodide of Potassium in 478
— Leeches in 478
— Nitroglycerine in 478
— Opium in 478
— Quinine for 478
— Rum or Cognac in 477
— Sinapisms in 478
— Sodium Nitrate in 478
— Strychnine in 478
— Sulphate of Quinine in 477
— Tartar Emetic in 478
— Thebaic Extract in 477
— Turpentine Inhalations in 478
Pneumonic Gangrene 480
Podagrous Insanity 356
Podophyllin in Infantile Diarrhœa ... 187
Poliomyelitis 480
Politzer's Method of Examining Eustachian Tube 217
Post-Partum Hæmorrhage 313
Potassium Bichromate 33
— — in Psoriasis... 35
— Bromide in Amenorrhœa 71
— — — Epilepsy 249
— — — Gonorrhœa 306
— — — Menière's Disease 234
— — for Sleeplessness of Chorea ... 162
— Chlorate of 35
— — in Cirrhosis of Liver 406
— — — Diphtheria 193
— in Cholera 158
— Iodide in Actinomycosis 60
— — — Albuminuria 62
— — — Angina Pectoris 79
— — — Ascites 96
— — — Carcinoma of Fauces ... 539
— — — Cirrhosis of Liver 406
— — — Encephalitis 240
— — — Labyrinthitis 233
— — — Menière's Disease 233
— — — Myositis Syphilitica 429
— — — Obesity 450
— — — Pneumonia 478
— — — Psoriasis 489
— — — Vertigo 580
— Nitrate in Malaria 418
— Permanganate of 4
— — in Gonorrhœa 306
— — — Snake Bite 514
— — — Typhus 556
Poultice for Whitlow 581
Powder Insufflator 620
Pregnancy 480
— Alcohol and Water in 481
— Iodide of Potash in 481
— Iodide in 481
Pregnancy, Strychnine in Debility of... 480
Premature Labour, Induction of ... 398
Prostate, Castration for Enlargement of 482
— Concretions in 481
— Senile Enlargement of 482
— Surgery of 481
Prostatectomy 483
Prostatitis 486
— Pichi-pichi in 32
Prostration of Chorea 163
Proteine for Actinomycosis 60
Prurigo 486
— Losophan in 22
— Electric Souffle in 487
Pruritus 487
— Menthol in 487
— Resorcinol in 487
— Strophanthus in 487
Pseudo-general Paralysis, Alcoholic ... 369
— — — Saturnine 369
— — — Syphilitic 369
Psoriasis 487
— Alumnol in 488
— Chrysophanic Acid in 489
— Electricity in 488
— Ethylate of Sodium in 488
— Europhen in 488
— Gallanol in 488
— Hydrastin in 488
— Oil of Cade in 488
— Potassium Bichromate in 35
— — Iodide in 489
— Thyroid Gland in 488
Psorospermosis Follicularis Vegetans... 489
Psychical Defect, Forms of 369
Pubescent Insanity 356
Public Health Amendment Act, 1893 584
Puerperal Convulsions 172, 489
— Dementia 364
— Eclampsia 489
— — Chloral in 490
— — Milk Diet in 489
— — Strontium Lactate in 490
— — Venesection in 490
— Fever, Antiseptics for 490
— — Boric Acid Solution in 491
— — Carbolic Acid Application in ... 491
— — Curetting in 491
— — Iodoform Pessaries in 491
— — Iron in 491
— — Irrigation for 491
— — Quinia in 491
— — Strychnia in 491
— Mania 356
— Melancholia 352
— Septicæmia 490
— — Stimulants in 491
Pulmonary Affections, Eucalyptol in ... 20
— Disease, Cocillana in... 15
Purgative for Enteric Fever 244
— in Insanity 375
— in Nephritis 139
Pustules Treated with Phenic Acid ... 30
Pyelitis, Extirpation of Ureter for ... 560
Pyoktanin in Diphtheria 191
— in Sycosis 533
Pyrogallic Acid in Cancer 152
— — in Epithelioma 255
Pyrozone in Alopecia Areata 68
Pyuria 491

QUICKLIME and Arsenic in Hypertrichosis 342
Quinia in Puerperal Fever 491
Quinine in Anæmia 72
— — Angina Pectoris 79
— — Cholera 157
— — Diabetes 179
— — Dysentery 197
— — Menière's Disease 233
— — Neuralgia 434
— — Pemphigus 457
— — Pertussis 458, 459
— — Pneumonia 478
— Bichlorhydrate in Malaria 417
— Chlorhydro-sulphate of 36
— Irrigations in Dysentery 198
— Sulphate in Pneumonia 477
— — Typhoid 553
— — Typhus 556, 557

RIDLON, J., *pp.* 166, 384, 453, 517, 550; Robson A. W. Mayo, 48, 56, 302, 331, 377, 407, 419, 454, 527.
Rabies 492
Rachitis 492
Radical Cure of Hernia 331
Railway Regulation Act (1893) ... 583
— Spine 493
Rarefied Air in Asthma 99
Rectum, Cancer of 493
— Inflamed, Carbolic Acid for ... 494
— Irritable Ulcer of 493
— Naphthol Irrigation in Cancer of ... 494
— Stricture of 494
— Ulcer of, Nitrate of Silver for ... 493
Relapsing Appendicitis 88
Renal Ballottement in Liver Affections 407
— Calculus 494
— — Glycerine in 495
— — Piperazine in 494
— Disease, Nerium in 24
— Operations (Minor) 394
Resection of Bladder 105
— — Ureter 560
— — Urethra for Stricture 561
Resorcin in Cancer 152
— — Eczema 238
— — Gonorrhœa 307
— Ointment for Ulcer 557
— in Pertussis 458
— — Verruca 519
Resorcinol 37
— in Pruritus 487
Rest in Exophthalmic Goitre 260
Retention of Urine 563
Retraction of Tympanic Membrane ... 213
Retro-pharyngeal Abscess 461
Reynaud's Disease 496
Rheumatic Insanity 352
Rheumatism 496
— Acute, Salophen in 37
— Agathin in 8
— Asaprol in 11
— Oleum Succini in 24
— Articular, Electricity and Hydrotherapy in 500
— — Gymnastics and Massage in ... 500
— Muscular, Salicylate of Soda in ... 500
Rheumatoid Arthritis 504
— — Cod-liver Oil in 506
Rheumatoid Arthritis, Digestive Organs in 504
— — and Gout 501
— — Iodide of Iron in 506
— — Kidneys in 503
— — Muscular System in 503
— — Skin in 503
— — Sulphur in 506
Rhinitis 439, 506
— Acute 440
— Alumnol in 506
— Atrophic 441
— Chronic, Snuff and Sprays for ... 444
— Diaphtherin in 306
— Hypertrophic 441
— — Chromic Acid in 445
— — Galvano-cautery for 444
— — the Snare for 444
— — Trichloracetic Acid in 445
— Myrrholin in 23
— Sicca 441
— Snuff for use in 506
— Soda Bicarbonate 506
Rhubarb in Hill Diarrhœa 183
— for Worms 581
Rickets 507
Rinné's Tests in Ear Disease 204
Rivers' Pollution Prevention Act (1893) 583
Rosacea, Losophan in 22
Roseola, Diagnosis of 292
Rötheln, Diagnosis of 293
Rum or Cognac in Pneumonia 477
Rupture of Bladder 106

SAUNDBY, R., *p.* 133; Shaw, J., 344; Smith, R. Shingleton, 462, 453; Smyly, Wm. J., 534; Snell, S., 260; Sonnenburg, E., 518; Strahan, J., 288.
Saccharin in Typhoid 555
Sacculated Bladder 106
Saffron in Amenorrhœa 71
Sal Rochelle in Fissured Nipples ... 132
Salicylate of Soda in Chorea 164
— — — — Intestinal Gout 309
— — — — Pertussis 459
Salicylates in Neuritis 436
Salicylic Acid in Alopecia Areata ... 68
— — — Cancer 152
— — for Tuberculosis of Skin 444
— — Paste in Lupus Vulgaris 415
— — in Pityriasis of Ear 232
— — — Pleurisy 476
— — — Senile Cystitis 109
— — — Small Pox 514
— — — Verruca 579
Saline Aperients for Dysmenorrhœa ... 199
Salipyrine in Influenza 343
Salix Nigra 609
Salol in Bladder Irritation 108
— — Diabetes 181
— — Enteric Fever 244, 555
— — Gonorrhœa 307
— — Infantile Diarrhœa ... 185, 186
— — Pleurisy 476
— — Typhus 555
Salophen in Acute Rheumatism ... 37
— — Supraorbital Neuralgia 37
Salpingitis, Bichloride Solution in ... 507
— Blisters in 507
— Iodine and Glycerine in 507

Salpingitis, Sitz Baths in 507
Sandal Oil in Gonorrhœa 307
— Wood Oil in Bladder Irritation ... 108
— — — Capsules in Gonorrhœa ... 306
Sanitary Legislation and Science ... 583
Sanitation, Practical 585
Santonine for Dysmenorrhœa 200
— in Sprue 527
Sarcoma of Fauces 540
Sarcomatosis Cutis 507
— — Arsenic in 507
Saturnine Pseudo-general Paralysis ... 369
Savin for Verruca... 579
Scabies, Benzine for 508
Scarlatina, Ammonium Carbonate in ... 509
— Carbolic Acid for 509
— Digitalis in 509
— Special Soap for 509
Sciatica 510
— Agathin in 8
— Asaprol in 11
— Dry Cupping in 511
— Mustard and Molasses in 511
— Nitro-glycerine in 511
— Oleum Succini in 24
Scirrhus of Pancreas 456
Scopolamine in Episcleritis 38
— Hydrochlorate 37
— in Iritis 38
Scrofula, Creasote in 512
Sedans Liq. 607
Sea-sickness 512
— — Antipyrine in 513
— — Atropine in... 513
— — Bromide of Sodium in 513
— — Caffeine in 513
— — Chlorobrom in 513
— — Creasote in 513
— — Ergotin in 513
— — Oxalate of Cerium in 513
— — Strychnine in 513
Senile Dementia 563
— Mania 355
— Melancholia 351
Shampooing in Alcoholism 65
Shock after Abdominal Surgery ... 49
Shop Hours' Act (1893) 584
Shoulder-joint, Diseases of 384
Shrapnell's Membrane, Perforations of 215
Siegel's Speculum 215
Silver Nitrate in Diphtheria 191
— — — Dysentery 198
— — — Eczema of Ear... 232
— — — Epididymitis 249
— — — Gonorrhœa 305, 306
— — — Pityriasis of Ear 232
— — Solution for Bubo... 141
— — in Ulcer of Rectum 493
Simple Mania 352
— Melancholia 349
— Primary Dementia 362
Simulated Insanity 345
Sinapisms in Amenorrhœa 71
— — Pneumonia 478
Sitz Baths in Salpingitis 507
— — — Spermatorrhœa 515
Skin Grafts for Affections of Eyelids ... 285
— Pigmentation of 474
— the, in Rheumatoid Arthritis ... 503
Skull, Injuries of 123
Sleep in Acute Alcoholism 64
Sleeplessness 375
— in Chorea 162
Small Pox, Boric Acid in 514
— — — Lint and Lotion in 514
— — Cocaine in 514
— — Pepsin in 514
— — Salicylic Acid in 514
— — Sanitation 596
Snake-bite 514
— — Butyl-chloral-camphor in ... 515
— — Chloroform in 515
— — Hydrate of Chloral in 515
— — Ipecacuanha Poultices in ... 515
— — Menthol-camphor in 515
— — Permanganate of Potassium in ... 514
— — Strychnine in 515
Snare, the, in Hypertrophic Rhinitis... 444
Sneezing, Paroxysmal 317
Snuff for Chronic Rhinitis ... 444, 506
Soap for Scarlatina 509
Soda, Carb. in Diabetes... 178
— Sulphate in Hæmatemesis 310
Sodium Benzoate 12
— Bicarb. in Anæmia 72
— — — Enuresis of Children 248
— — — Hæmatemesis 310
— — — Hill Diarrhœa 183
— — — Morphinomania 426
— — — Rhinitis 506
— Borate in Paralysis Agitans.. ... 457
— Bromide in Infantile Convulsions ... 172
— Chloride or Iodide in Lupus ... 414
— Nitrate in Malaria 418
— — in Pneumonia 478
— Phosphate in Locomotor Ataxia ... 409
— Salicylate in Chorea 164
— — — Lumbago 500
— — — Pertussis 459
— — — Pleurisy... 476
— — — Sleeplessness of Chorea ... 162
— — — Sprain 527
— — — Typhoid 555
— Sozoiodol in Diphtheria 193
Soft Soap in Leprosy 405
Sore Throat, Benzoate of Sodium in ... 12
Soya Beans for Diabetes 39
Sozoiodol-Sodium in Pertussis 459
Sparteine in Bright's Disease 137
— — Enuresis of Children 247
— — Morphinomania 424
Spasmodic Croup 174
— Torticollis 550
Spastic Paralysis 515
Spermatorrhœa 515
— Cimicifuga in 516
— Cold Sitz-baths in 515
— Testicular Juice for 516
Spermine in Locomotor Ataxia ... 409
Sphincteroplastis 383
Spina Bifida 516
Spinal Anæmia 518
— Cord, Surgery of 518
Sponge Bath for Sleeplessness in Chorea 162
— Dressing for Mammary Abscess ... 53
Sprain, Salicylate of Soda for 527
Sprays 626
— for Chronic Rhinitis 444
— — Follicular Tonsillitis 547
Sprue 526

Sprue, Santonine in 527
Sputum Cup 626
Stapes, Removal of 230
Sterilizer for Excrementitious Matter... 586
Stimulants in Œdema Pulmonum ... 411
— — Puerperal Fever 491
Stomach, Cancer of 532
— Dilatation from Pyloric Adhesion ... 528
— Disorders of 530
— — Gastro-Faradization in 530
— Surgery of 527
Stomachic in Angina Pectoris 78
— Orexin as a 25
Stone in the Bladder 103
— — — Kidney 396
Strangury 532
Stricture of Œsophagus 451
— of Rectum 494
Strontium in Albuminuria 63
— — Bright's Disease 137
— Bromide in Vomiting of Pregnancy 581
— Lactate in Puerperal Eclampsia ... 490
Strophanthine in Enuresis of Children 247
Strophanthus in Bright's Disease ... 137
— — Exophthalmic Goitre 260
— — Pruritus 487
Strychnine 6
— in Asthma 98, 99
— — Cerebral Hæmorrhage 312
— — Cholera 157
— — Diabetes 179
— — Enuresis of Children 247
— — Heat Stroke 329
— — Paralysis of Chorea.. 164
— — Pneumonia... 478
— — Pregnancy 480
— — Puerperal Fever 491
— — Sea-sickness 513
— — Snake-bite 515
— — Urticaria 564, 565
— for Worms 582
— Sulphate in Chorea 166
Stupor, Anergic 358
— Calaleptic 358
— Melancholic 357
Stuporous Forms of Insanity 357
Sublimate in Gonorrhœa 305
— Solution in Cystitis 110
— Sprays in Erysipelas of Pharynx ... 461
Sub-phrenic Abscess 56
Succus Taraxaci in Liver Congestion... 407
Suction-Speculum for Ear Disease ... 215
Sulphate of Iron in Hæmatemesis ... 310
— of Magnesia in Enteric Fever ... 243
— — — — Hæmatemesis 310
— — — — Infantile Diarrhœa ... 187
— — Strychnine in Chorea 166
— — Thallin in Gonorrhœa 306
Sulphite of Magnesium 609
Sulpho-Carbolate of Zinc in Gonorrhœa 306, 307
Sulphonal in Insomnia 379
— — Morphinomania 426
Sulphur in Chlorosis 73
— Ointment in Acne Vulgaris... ... 58
— — — Eczema 235
— in Rheumatoid Arthritis 506
— Sublimated, in Diphtheria 193
Sulphurated Antimony in Pertussis ... 459
Sulphuric Ether for Bubo 142
Sun Stroke... 329
Suppurative Otitis, Sequelæ of ... 221
— Tonsillitis 549
Suprapubic Cystotomy 103
Surgery, Abdominal 48
— of Bile-ducts 302
— — the Brain 129
— — Gall-bladder 302
— Intestinal 377
— of Kidney 393
— — Liver 407
— — Mesentery 419
— — Pancreas 454
— — Prostate 481
— — Spinal Cord 518
— — Stomach 527
— — Tongue 546
— — Ureters 559
— — Urethra 561
Surgical Sponges 625
— Treatment of Neuralgia 432
— — — Torticollis 550
Suture after Laparotomy 48
— of Nerves 431
Swedish Exercises in Chorea 164
Sycosis, Alcohol in 533
— Cataphoresis in 533
— Pyoktanin in 533
— Vulgaris, Losophan in 22
Symphyseotomy 534
Synchronous Movements of Upper Eyelids and Lower Jaw 273
Syphilis 536
— Infantile 343
— of Kidney 398
— — Throat *v.* Cancer 54
— — Tonsils 540
— *v.* Tuberculosis 412
Syphilitic Dementia 364
— Insanity 356
— Pseudo-general Paralysis 369
— Spinal Anæmia 518
Syringes 622
Syringomyelia 537
Syzygium Jambolanum in Diabetes ... 180

TAYLOR, J. M., *p.* 246; Thorburn, W., 123, 129, 431, 432, 516, 523, 550.
Tænia 537, 581
Talc in Coryza 174
Tampon in Abortion 52
— — Dysmenorrhœa 199
— — Metrorrhagia 420
Tannic Acid in Diphtheria 194
— — — Dysentery 198
— — Injections in Cholera Infantum 160
Tannin Solution in Gonorrhœa... ... 307
Tar for Eczema of Hands 238
Tartar Emetic in Pneumonia 478
Tasi 40
Terminal Dementia 365
Terpene Hydrate in Bronchitis ... 140
Testicle Juice in Cancer... 149
Testicular Emulsion 40
Test-types and Chromatic Dial .. 627
Tetanus 533
— Antitoxin in 538
Teucrin 42
— for Abscesses 42
— — Actinomycosis 42

Teucrin for Lupus Vulgaris 42
— — Lymphadenitis 42
Thalamus and Internal Capsule, Lesions of 538
Thallin Sulphate in Gonorrhœa .. 306
Thebaic Extract in Pneumonia ... 477
Theobromine in Heart Disease.. ... 326
Therapeutic Gains of 1893 1
Thermo-urinometer 627
Thiersch Solution for Fissured Nipples 131
Thilanin in Lupus Erythematosus ... 413
Thiol in Diseases of Uterus 565
— — Erysipelas 256
Thiosynamin in Local Tuberculosis ... 42
— — Lupus Vulgaris 417
Throat, Diseases of 539
— Incised Wounds of 543
— Lamp 627
Thymacetin 44
Thymol in Angina Pectoris 78
— for Burns 143
— in Diabetes 181
— — Filariasis 294
— — Infantile Diarrhœa 186
Thymus Serpyllum in Pertussis ... 458
Thyroid Extract 45
— — in Cretinism 174
— Gland 1, 609
— — in Myxœdema 429
— — — Psoriasis 488
Tic, Convulsive 543
Tinct. Camph. Co. 610
Tincture of Iodine in Enteric Fever ... 243
Tinea Imbricata 543
— Tonsurans, Losophan in 22
— Trichophytina 543
— — Chrysarobin in 541
— — Croton Oil in 544
— — Iodized Collodion in 544
— — Losophan in 544
— — Oleate of Copper in 544
— Versicolor 545
Tinnitus Aurium 206
Toe-nail, Ingrowing 545
Tolypyrin 46
— in Headaches 47
Tongue Depressor 628
— Surgery of 546
Tonics for Worms 582
Tonsil Enlarged, Lugol's Solution for 461
— Diseases of 547
— Hypertrophy of 547
— New Method of Partial Ablation ... 547
— Hypertrophied, Dr. Barrett's Method of Treatment 548
— — Iodized Applications for 547
— — Paquelin Cautery for 548
— Lugol's Solution in Hypertrophy of Lingual 549
Tonsillitis, Asaprol in 549
— Follicular, Carbolic Injection for ... 547
— — Bichloride of Iodine in 547
— — Galvanic Current for 547
— — Spray for 547
— Glycerine and Chloride of Zinc Solution for 549
Torticollis, Spasmodic 550
— Surgical Treatment of 550
Tourniquet, "Reliance" 625
Tracheotomy in Diphtheria 192
Tracheotomy *v.* Intubation 403
Trachoma 551
Training Institutions for Feeble Intellects 642
Tramps and Small Pox 596
Transfusion in Pernicious Anæmia ... 73
Traumatic Insanity 352
Tremor Mercurial... 551
Trephining of Vertebral Column ... 519
Trichloracetic Acid in Pharyngitis ... 461
— — in Hypertrophic Rhinitis ... 445
Trigeminal Neuralgia 551
Tropacocaine as a Local Anæsthetic .. 47
Tubercular Diarrhœa 184
— Ulceration of Pharynx 461
Tuberculosis 551
— Essence of Cloves in 552
— Iodoform Injections in 552
— Local, Treated by Thiosynamin ... 42
— of Skin, Salicylic Acid for 553
— *v.* Syphilis 412
— Zinc Chloride Solution in 552
Tuberculous Arthritis 392
— — Copper Phosphate in 392
— — Corrosive Sublimate in 393
— Pericarditis 318
Tumours of Bladder 110
— of Eye 277
Tuning Fork for Aural Disease ... 203
Turkish Baths in Morphinomania ... 426
Turpentine Essence in Diphtheria ... 194
— — — Erysipelas 257
— Inhalations in Pneumonia 478
— in Jaundice 384
— Oil of, in Alopecia Areata 68
Tympanic Membrane, Colour in Disease 212
— — Examination of 212
— — Perforation of 214
— — Retraction of 213
Typhoid, Ammonium Benzoate in ... 555
— Antifebrin in 554
— Antipyrin in 554
— Asaprol in 11
— Beta-Naphthol in 555
— Benzoate in 555
— Bismuth in 555
— Calomel in 554
— Camphor in 555
— Carbolic Acid Pills in 5 5
— Charcoal in 555
— Cold Bath in 553
— Fever 212, 553
— Intestinal Asepsis in 555
— Phenacetin in 554
— Quinine in 553
— Salol in 555
— Soda Salicylate in 555
Typhus 555
— Alcohol in 556
— Ammonia in 556
— Calomel in 556
— Camphor in 557
— Chloral in 557
— Hyoscine in 557
— Ipecacuanha in 556
— Musk in... 556
— Nux Vomica in 556
— Permanganate of Potash in... ... 556
— Quinine in 556, 557

Typhus, Salol in 556
— Sulphate of Magnesia in 556
— Valerian in 557

UNNA, P. G., *p.* 234.
Ulcer, Alumnol in... 557
— of Cornea, Hypopyon 283
— Europhen in 557
— Friar's Balsam for 557
— Resorcin Ointment for 557
Ulceration of Colon 383
Ulcus Molle 558
Umbilical Hernia, Radical Cure of ... 333
Uræmia, Digitalis in 559
— Inhalation of Oxygen for 559
Ureter, Extirpation of for Pyelitis ... 560
— Occlusion of 559
— Resection of 560
— Surgery of 559
Uretero-Enterostomy 560
Urethra, Surgery of 561
Urine 562
— Incontinence and Retention of ... 563
Urticaria 564
— Aromatic Vinegar in 565
— Galvanism 565
— Oil of Almonds in 565
— Phenic Acid in... 565
— Pilocarpine in 565
— Strychnine in 564, 565
Uterine Cancer 152
— — Aristol in 153
— Inertia 401
— Melancholia 352
— Set 628
Uterus 565
— Dilatation of 566
— — — Iodised Phenol for 567
— Diseases of, Ichthyol Useful in ... 565
— Drainage of for Endometritis ... 240
— Potash Perman. in Diseases of ... 566
— Prolapse of, Alexander's Operation 567
— Thiol in Diseases of 565

VACCINATION Officers 662
Vaccinator, Metal 623
Vagina, Diseases of 572
Vaginal Irrigating Tube... 628
— Tampon for Metrorrhagia 420
Vaginismus... 572
Vaginitis 573
— of Children, Petroleum in 573
Vaginodynia 573
— Belladonna in 576
— Comus in 576
— Valerian in 576
— Viburnum in 576
Valerian in Croup... 174
— — Amenorrhœa 71
— — Typhus 557
— — Vaginodynia 576
Valerianate of Ammonia in Morphinomania 425
— — Iron in Menière's Disease ... 234
— — Zinc in Angina Pectoris 79
Vals Water in Bright's Disease ... 137
Van Swieten's Liquor in Eczema of Ear 232
Varicocele 578
Varicose Veins, Massage for 578
Vaseline Injections in Otitis 233
Vaseline, White, in Erysipelas ... 256
Vegetable Milk in Infantile Diarrhœa 189
Veins, Varicose 578
Venesection for Aneurism 76
— in Puerperal Eclampsia 490
Vermiform Appendix, Hernia of ... 334
Verruca 578
— Carbolic Acid for 580
— Liq.-Arsenicalis for 579
— Resorcin for 579
— Salicylic Acid for 579
— Savin for 579
— Tincture of Iodine for 579
Vertebrals, Compression of 208
Vertigo 580
— in Ear Disease... 208
— Potassium Iodide in 580
Vesical Distension 563
Viburnum in Vaginodynia 576
Vichy Tablets 610
— Water in Bright's Disease 137
— — — Diabetes 181
Visitors in Lunacy 662
Vitreous, Opacities of 581
Voice, Hints to Users of... 581
Vomiting 581
— during Anæsthesia 75
— — — Creasote for 75
— Atropine in 581
— Nitro-glycerine in 581
— in Pregnancy, Orexin in 25
— — — Strontium Bromide in ... 581

WILLIAMS, P. Watson, *p.* 437, 448, 539
Warm Baths in Melancholia .. 432
Water Gullies 591
Webber's Test in Ear Disease 204
Wet Sheet Packs, Warm, for Chorea ... 163
White of Egg for Fissured Nipples ... 132
— Vaseline in Erysipelas 256
Whitlow, Poultice for 581
Whooping Cough 458
— — Oleum Succini in 24
Whortleberry Wine 610
Wine of Cod-liver Oil with Iron ... 610
Wintergreen and Ether in Alopecia 69
Worms, Castor Oil for 581
— Enemata for 582
— Iron for 582
— Nux Vomica for 582
— Rhubarb for 581
— Strychnine for 582
— Sulphate of Magnesia for 581
— Tonics for 582
Wounds of Abdomen 51
Wrist Joint Disease 388

ZINC Chloride in Cancer 151
— — Paste in Epithelioma ... 255
— — in Gonorrhœa 306, 307
— — — Pharyngo-mycosis 460
— — Solution in Tuberculosis... ... 552
— Ointment in Pemphigus 457
— Oxide in Hill Diarrhœa 183
— Paste for Eczema 237
— Solution in Pharyngo-mycosis ... 460
— Sulphate in Gonorrhœa 306
— Sulpho-carbolate of in Gonorrhœa 306
— Sulphur Paste for Eczema 237
Zymin in Diabetes 180

24, CHANCERY LANE, LONDON.

London Matriculation, Intermediate and B.A., Preliminary Scientific, and Conjoint,

Preliminary Medical, Preliminary Law, Hospital Scholarships,

AND

ALL PUBLIC EXAMINATIONS.

Class, Private and Postal Tuition

BY

JOHN GIBSON, M.A.,

First Class Classics, Cambridge; formerly Senior Exhibitioner of Uppingham School; Open Exhibitioner, Foundation Scholar and Prizeman of Trinity College; for five years Assistant-Master at Westminster School, and Author of various Educational Works for Law, Army, Civil Service, and University Students;

AND

G. LOLY, B.A.,

Tenth in Honors, London Matriculation, 1883; Honors in Modern Languages London; German, French, Spanish, &c.; Prizeman at City of London College;

ASSISTED BY A STAFF OF TUTORS,

Specialists in their different Subjects.

Uniform success for many years. Over 1000 Pupils have passed the various Public Examinations, many winning Scholarships, Honors, &c.

A PRACTICAL LABORATORY in full working order.

Chemical Analyses of all kinds undertaken.

Books Recommended GRATIS.

A complete List of Mr. GIBSON's Publications, with Opinions of Press, sent on application.

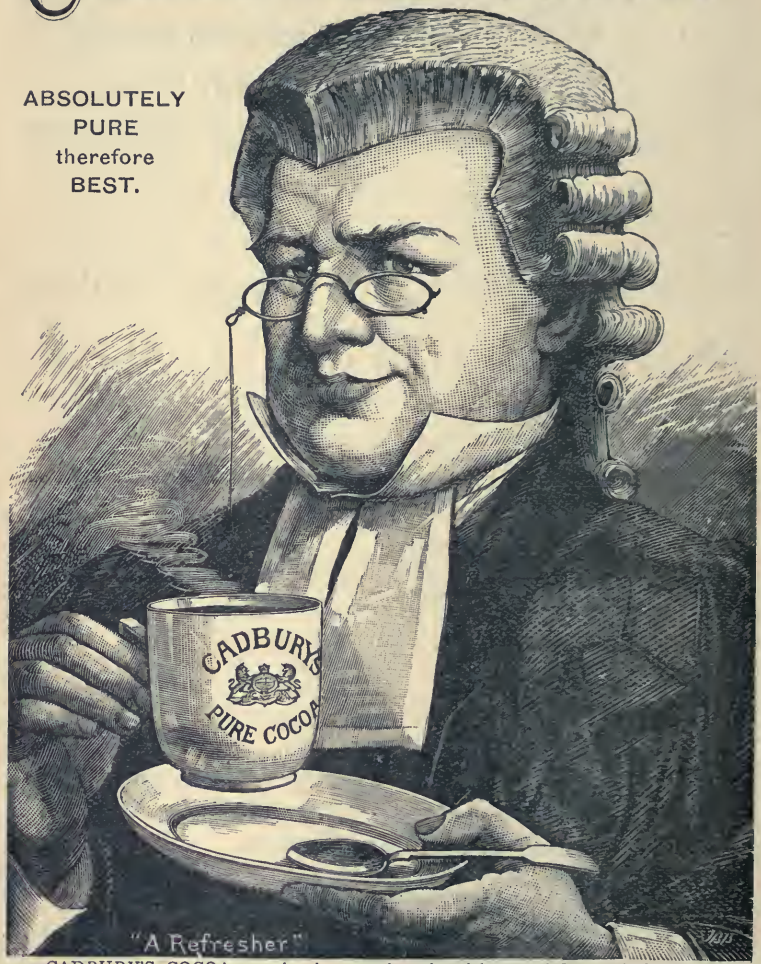
RESIDENT PUPILS received at BROMLEY, KENT.

Private and Telegraphic Address:

THE TRELLIS,
BICKLEY, KENT.

CADBURY'S COCOA.

ABSOLUTELY
PURE
therefore
BEST.



CADBURY'S COCOA contains in a condensed and increased from all the nourishing properties of the Cocoa bean, the proportion of flesh-forming ingredients being 21 as compared with 19 in Natural Cocoa (Cocoa Nibs), and the meagre proportion of 6 in the ordinary Cocoas of commerce prepared with added starch and sugar.

CADBURY'S COCOA is absolutely pure, and always alike in quality.

List of Illustrations.

PLATES.

	Page
Plate I.—Three Views of Appendix	81
Plates II. – IV.—Six Views of Bladder Tumours	111, 112, 114
Plates V., VI.—Dissection showing Vertebrals—Polypus—fifteen Views of Meatus	211, 214
Plate VII.—Diseased Ossicula, twelve Views	226
Plates VIII., IX.—Snell's Operation for Cataract, four Views	267, 268
Plate X.—Three Views of Nævi	272
Plate XI.—Synchronous Movement of Upper Eyelid and Lower Jaw, two Views	274
Plate XII.—Double Proptosis, two Views	277
Plate XIII.—Destruction of Eye and Face by Lupus	284
Plate XIV.—Fractures of Lower Extremities, three Views	300
Plate XV.—Hip Joint Operation, two Views	337
Plates XVI. – XXVIII.—Facial Expression in Insanity, thirty-seven Faces	344 – 373
Plate XXIX.—Epithelioma of Soft Palate and Uvula	539

WOODCUTS.

Figs.		Page
1 – 3.	—Charts in Appendicitis	84 – 86
4 – 11.	—Views of Appendix	91 – 94
12.	—Section of Pubes and Bladder with "Caisson"	120
13, 14.	—Sub-maxillary Cancer	145, 146
15.	—Gardiner Browne's Tuning Fork	203
16.	—Galton's Whistle	204
17 – 18.	—Compressing the Vertebrals	207, 208
19.	—Method of examining Ear	209
20, 21.	—Hæmatoma Auris, two Views	210
22, 23.	—Aural Probe and Hoe	211
24, 28.	—Views of Tympanic Membrane	212, 214
29.	—Siégel's Speculum	215
30.	—Diagram of Mr. Teale's Incision for Cataract	261
31 – 32.	—Plaster for Eye Dressing	269
33.	—Tumour involving both Orbits	279
34.	—Helmet used in Electric Welding	281
35.	—Platinum Cautery for Cornea	283
36 – 38.	—Skin Grafting in Affections of Eyelids	287, 288
39.	—Radical Cure of Hernia	332
40 – 42.	—Trusses	332, 333
43.	—Dawbarn's Potato Plate for Intestinal Surgery	377
44.	—Buttons for ditto	378
45 – 47.	—Dr. Maunsell's Intestinal Retractor and Diaphragm	379, 380
48.	—Lane's Clamps for Intestinal Surgery	381
49.	—Erectile Tissue of Nasal Fossæ	438
50, 51.	—Pancreatic Cysts	455
52, 53.	—Hæmostatic Tampons for Prostatic Operation	484, 485
54 – 57.	—Bone Ring and Sutures for Gastro-Enterostomy	529, 530
58.	—Electric Drain Tester	587
59, 60.	—Reliable Joint for Drains	588
61, 62.	—Portable Disinfecting Closet	589
63 – 67.	—Crosta's Patent Gully	591
68, 70.	—Improved Gully Sink and Trap	592, 593

CHICAGO EXHIBITION—Highest Awards in Two Classes.
And EIGHTEEN other GOLD, SILVER, & BRONZE MEDALS.

WM. WOOLLAMS & CO.,

ORIGINAL MAKERS OF

ARTISTIC WALL PAPERS,

GUARANTEED

Free from Arsenic.

☞ Correspondence invited on cases of poisoning from Arsenical Wall Paper.

Sole Address:—

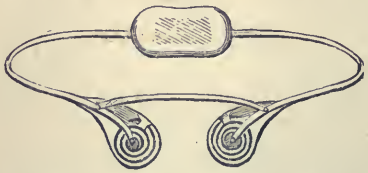
110, HIGH STREET (Near Manchester Square), **LONDON, W.**

THE LATEST IMPROVEMENT IN TRUSSES.

WM. COLES & CO.,

Inventors and Patentees
of the

Spiral Spring Truss,



ALSO

SPECIAL ADAPTATION
FOR THE
SUPPORT OF FLOATING KIDNEY.

225, PICCADILLY, LONDON, W.

(Late 3, Charing Cross). *Two Doors from "The Criterion."*

PARTICULARS, &c., GRATIS BY POST.

INDEX TO ADVERTISERS.

PAGE

ASYLUMS.

Abbey Green, Jedburgh .. 757
Bailbrook House, Bath .. 749
Barnwood House, Gloucester 754
Bethlehem Royal Hospital .. 753
Boreatton Park, Baschurch, Salop 750
Church Street, Epsom .. 757
Dalrymple Home, Rickmansworth, Herts 754
Earlswood Asylum, Redhill 752
Fiddington House, nr. Devizes 753
Fisherton House, Salisbury .. 745
Flower House, Catford, S.E. 755
Grove, The, Jersey 748
Grove House, Church Stretton, Shropshire 752
Harpenden Hall, Herts .. 751
Haydock Lodge, Newton-le-Willows, Lancs. 755
Hayes Park, Hayes, Middlesex 756
Highfield and Hampstead, Drumcondra 750
High Shot House, Twickenham, Middlesex 756
Kingsdown House, Box, Wilts 751
Lawn, The, Lincoln 752
Murray's Jas. Royal Asylum, Perth 749
Northwoods House, Winterbourne, near Bristol .. 756
Peckham House, Peckham, S.E. 751
Plympton House, South Devon 755
Shaftesbury House, Formby-by-the-Sea, near Liverpool 746
Stretton House, Church Stretton 747
Warneford Asylum, Oxford .. 753
Wonford House, near Exeter 754

HOMES.

Ancaster House, Richmond (Training) 758
Downside Lodge, Chilcompton, near Bath (Training) .. 757
"Two Elms," Sidcup (Training) 758
Woodside, Croydon (Inebriate) 761

HOSPITALS AND MEDICAL SCHOOLS, &c.

Charing Cross Hosp., Med. Sch. 731
General Hospital, Bloomsbury, W.C. 735
Gordon Hospital for Fistula 731
Hospital for Consumption, Brompton 731
London Homœopathic Hospital 735
London School of Medicine for Women 726
Mason College, Birmingham 725
Medical and Surgical Home, Portman Square 726
Medical School for Women, University of Glasgow .. 734
Middlesex Hosp. Med. School 727
Richmond, Whitworth & Hardwicke Hospitals, Dublin .. 732
Rotunda Hospital, Dublin .. 726
Royal College of Surgeons, Edinburgh 722
Royal Southern Hospital, Liverpool 729
Royal (Dick) Veterinary College, Edinburgh 729
St. Bartholomew's Hospital and College 720
St. John's Hospital for Skin, &c. 730
St. Mark's Hospital for Fistula 724
St. Peter's Hosp. for Stone, &c. 727
Steevens' Hosp., Dr., Dublin 732
University College, Bristol .. 723
University of Aberdeen .. 729
University of Durham .. 721
University of Edinburgh .. 722
Yorkshire College, Leeds .. 728

HYDRO-THERAPEUTIC ESTABLISHMENTS.

Deeside, near Aberdeen .. 761
Dunblane, Philp's 759
Hammam, or Turkish Bath .. 760
Hazlewood, Grange-ov'r-Sands 762
Hydro. House, Southport 762
Mornington, The, Southport 759
Scarborough Hydro. 763
St. Ann's Hill, Blarney .. 763
Smedley's Hydro., Matlock .. 762
Southport Sunnyside Hydro. 760

NURSING INSTITUTIONS.

Hamilton Association for Providing Male Nurses .. 736
Hanover Institute for Nurses 733
Liverpool Institution for Trained Nurses 732
London Association of Nurses 724

PAGE

Mary Wardell Convalescent Home 730
Mildmay Nursing House .. 730
"Nightingale" Trained Nurses' Institute 735
Trained Nurses' Home, Liverpool 734

TUTORS, &c.

Class for Edinburgh University 736
Geo. Tate, F.I.C., Liverpool 757
Gibson, J. lv
Society for Training Teachers for the Deaf 736
Van Praagh, W. (Defects of Speech) 703
Weymouth, E. S. (Postal) .. 719

LIFE ASSURANCE OFFICES.

Atlas Assurance, Fire & Life 688
British Workmen's & General 687
Edinburgh Life Assurance .. 682
General Life 690
North British and Mercantile 689
Norwich Union 717
Prudential 687

MEDICAL TRANSFER AGENCIES, &c.

Orridge & Co. 703
Thomas, C. B. C. 718

PUBLISHERS.

Birmingham Medical Review 699
Bristol Medico-Chirurgical Journal 695

BAILLIERE, TINDALL & COX.
Cancer and Ulcerations (Allingham) 708
Colotomy (Allingham) 708
Derangements of the Knee Joint (Allingham) 708
Diseases of Rectum (Allingham) 708

CHURCHILL, J. & A.
Diseases of the Liver ... (Harley) 725
Extrusion of Gall-stones (Harley) 725
Gall-stones ... ... (Harley) 725

Danielsson & Co,, Clinical Chart 728

FLETCHER, FLETCHER & STEVENSON
Memorabilia 782

GRIFFIN, CHAS. & CO., LIM.
Anæsthetics ... (Hewitt) 705
Consumption .. ... (Squire) 705
Diseases of Childhood (Donkin) 705
Diseases of Women ... (Phillips) 705
Forensic Medicine ... (Mann) 705
Heart, Diseases of ... (Sansom) 703
Medical Handbook ... (Aitchison) 705
Midwifery ... ... (Donald) 705
Ruptures .. .. (Macready) 705

PAGE

Indian Medico-Chirurgical Review 700

JOHNSTON, W. & A. K.
Atlas and Maps... 703

KIMPTON, HENRY.
Domestic Hygiene ... (Dutton) 708
Food and Drink... ... (Dutton) 708
Indigestion ... ... (Dutton) 708
Sea-sickness ... ... (Dutton) 708

Lancet, The 701

Laryngology, Rhinology and Otology, Journal of.. .. 697

LEWIS, H. K.
Anæsthetics ... ... (Buxton) 691
Bacteriology ... (Crookshank) 691
Cancer of the Uterus ... (Williams) 691
Cases of Poisoning ... (Murrell) 691
Charts, Nursing and Temperature ... 691
Curvature of Spine ... (Roth) 694
Dental Surgery... ... (Barrett) 691
Diseases of the Ear ... (Roosa) 691
— of the Ear ... ... (Gruber) 691
— of the Ear, etc ... (Burnett) 691
— of the Ear ... ... (Pritchard) 691
— of the Eye ... ... (Swanzy) 691
— of the Lungs.. .. (Powell) 691
— of the Skin ... ... (Crocker) 691
Diseases of Women ... (Skene) 691
— of Women ... ... (Lewers) 691
Examination of Urine (Jones) 691
Hygiene ... ... (Parkes) 691
Masso-Therapeutics ... (Murrell) 691
Medical Dictionary .. (Gould) 691
— Electricity (Steavenson & Jones) 691
— Microscopy ... ... (Wethered) 691
— Vocabulary ... ... (Lewis) 691
Medicine ... ... (Roberts) 691
Medicine ... ... (Carter) 691
Medicine... ... (Strumpell) 691
Midwifery ... ...(Lusk) 691
Morbid Histology ... (Boyce) 691
Nervous and Mental Diseases (Gray) 691
Ophthalmology ... ... (Fuchs) 691
Public Health ... ... (Kenwood) 691
Syphilis ... ... (Hill and Cooper) 691
Therapeutics ... ... (Ringer) 691
Therapeutics, Local ... (Allen) 691
Vaccination ... (Crookshank) 691

LIVINGSTONE, E. & S.
Anatomy... 702
Botany ... ... (Johnstone) 702
Brain and Spinal Cord (Whitaker) 702
Chemistry 702
Edin. Med. School Calendar ... 702
Exam. of the Urine ... (Husband) 702
Forensic Medicine ... (Husband) 702
Gynæcology 702
Materia Medica 702
Medicine 702
Midwifery ... ... (Milne) 702
Nerves ... ... (Hughes) 702
Pathology ... ... (Whitaker) 702
Physiology 702
Pocket Prescriber ... (Husband) 702
Posological Tables ... (Craig) 702

PAGE

LIVINGSTONE, E. & S., *continued.*
Puberty and Change of Life (Webster) 702
Public Health 702
Yellow Fever ... ... (Martin) 702
Zoology ... ... (Johnstone) 702

LONGMANS, GREEN & Co.
Hernia ... ... (Bennett) 725
Varicocele ... ... (Bennett) 725
Varicose Veins ... ... (Bennett) 725

MACMILLAN & Co.
Disorders of Digestion (Brunton) 702
Modern Therapeutics ... (Brunton) 702
Pharmacology, &c. ... (Brunton) 702

Medical Magazine, The .. 698

Medical Times and Hospital Gazette 704

PENTLAND, YOUNG J.
Disease in Children (Carmichael) 692
Diseases of the Eye ... (Berry) 692
— — — Skin ... ... (Jamieson) 692
— — Throat, &c. ... (McBride) 692
Edinburgh Hospital Reports ... 692
Hygiene, Warm Climates (Davidson) 692
Nerve Tracts, Illustration of (Bruce) 692
Pathology ... ... (Woodhead) 692
Pathology, Geographical (Davidson) 692
Surgery, Textbook (Keen & White) 692

PERCIVAL & Co.
Influenza ... ... (Thompson) 690

Quarterly Medical Journal .. 696

RENSHAW, H.
Hæmorrhoids ... ... (Edgelow) 708

SCIENTIFIC PRESS, LIMITED.
Annual of Hospitals and Charities (Burdett) 707
Cottage Hospitals ... (Burdett) 706
Feeding the Invalid 706
Handbook of Midwifery (Haultain) 706
Hospital Sisters ... (Luckes) 707
Hospitals and Asylums (Burdett) 707
How to become a Nurse (Morton) 707
Massage, Art of ... (Hale) 707
Medical History (Withington) 706
Mental Nursing ... (Harding) 707
Myxœdema ... ... (Wilson) 706
Nurse's Dictionary ... (Morton) 707
Nursing, Theory and Practice of (Lewis) 706
Ophthalmic Nursing (Stephenson) 706
Surgical Ward-Work ... (Miles) 706

SIMPKIN, MARSHALL & Co., LIM.
Buxton, its Baths and Climate (Hyde) 763
Nurse's Guide to Massage (Hyde) 763

WATT, A. P. & SON.
Diseases of Nose (MacDonald) 690

WHITTAKER & Co.
Dissections Illustrated (Brodie) 693
Hoblyn's Dictionary ... (Price) 693

PAGE

WRIGHT, J. & Co.
Abortion .. .. (Thomas) 714
Acne, Lichen, & Prurigo (Robinson) 714
Baby, Our ... ... (Hewer) 712
Baldness... ... ... (Robinson) 714
Baths and Bathing ... (Farrar) 714
Brain and Spinal Cord (Drummond) 714
Bright's Disease ... (Saundby) 711
Charts, Temperature and Diet ... 715
Compends, Latest Series 715
Deformities of Children ... (Pye) 711
Diabetes ... ... (Saundby) 711
Disease of Inebriety 712
Dissections ... ... (Brodie) 713
Elementary Bandaging ... (Pye) 711
Eruptive Fevers ... (Moore) 713
Golden Rules of Surgical Practice ... 712
Health Resorts of Europe 715
Massage and Electricity (Dowse) 711
Medical Bookkeeping 716
— Terms ... ... (Hoblyn) 715
Mental Diseases... ... (Shaw) 712
Miners' Nystagmus ... .. (Snell) 710
Nursing in Eye Diseases (Jeaffreson) 710
Obstetric Nursing ... (Madden) 714
Obstetrics, Practical ... (Davis) 714
Ophthalmological Prisms (Maddox) 710
Peritonæum, Anatomy of 714
Pocket Charts ... (Simpson) 682, 715
Pocket Pharmacy ... (Aulde) 714
Porthcawl as a Health Resort (Hunter) 713
Primer of the Art of Massage (Dowse) 715
Ptomaines ... (Farquharson) 712
Rheumatism ... ... (Wilde) 713
Sciatic Neuritis... ... (Simpson) 712
Surgical Handicraft ... ... (Pye) 711
Syphilis ... ... (Barton) 714
Temperature and Diet Charts ... 715
Unseen Foes ... ... (Wheeler) 713
Visiting List (New) 716
Water Cure ... ... (Doudney) 713
Workhouse and Its Medical Officer 712

ANTISEPTIC DRESSINGS.

Liverpool Lint Co. 766

MANUFACTURING CHEMISTS, &c.

Allen & Hanburys iii to vii and Inside Back Cover
Blake, Sandford & Blake .. 791
Battley & Watts xiv
Burroughs, Wellcome & Co. 737-744
Carnrick & Co., Limited .. xxxi
Christy, T. & Co. 784
Ferris & Co., Bristol, lxiv, 799, and Inside Back Covers
Kemp ix
Kuhn, B. 785
Lorimer & Co... .. 794-796
Mackey, Mackey & Co. .. xiii
Newbery, F. & Sons 777

PAGE

Parke, Davis & Co. 775
Preston, J. 770
Oppenheimer, Son & Co., Lim. xxv to xxviii
Richardson, J. & Co. 778
Sellers, J. 779
Sumner, R. & Co. Inside Front Cover
Symes & Co. 782
Willows, Francis & Butler .. 779

DIETETIC ARTICLES.

Anderson & Co. Lactomaltine 792
Armbrecht, Nelson & Co. .. 789
Back, G. and Co., Diabetic Whisky 787
Benger's Food 784
Bonthron, John, Diabetic Biscuits, &c. 781
Bovril, Lim. xii
Bruster, O. & Co. 783
Cadbury Bros. Cocoa .. lvi
Callard's Foods 792
Cantrell & Cochrane "Club Soda" 784
Fry, J. S. & Sons, Cocoas Inside Front Cover
Hoff's Malt Extract 786
Horlick's Malted Milk .. 790
Johannis Co., Lim. xviii
King's Cooked Oatmeal .. 792
Liebig Co.'s Extract of Meat xxxi
Lorimer's Coca Wine .. 749-796
Maltine Manufacturing Co. xxxii
Milkmaid Condensed Milk .. ii
Möller, P., Cod-Liver Oil .. 788
Nestlé, H., Foods xvi
Pearce, C. W. & Co., Californian Wines viii
Rowntree, H. I. & Co., Cocoa 791
Segar, H. & Co., Ale .. xi
Welford & Sons, Lim., Milk 793

OPTICIANS.

Curry & Paxton 768

SANITARY APPLIANCES.

Jennings, George xxii
Patent Gully Co. 771
Reid, A. W. & Co. xi
Taylor's Disinfector 757
Woollams & Co., Wall Papers lviii
Wright, Layman & Umney, Soaps 798

PAGE

SURGICAL INSTRUMENTS AND APPLIANCES.

Burroughs, Wellcome & Co. 737 to 744
Cocking, J. T., Poro-plastic Jackets 767
Coles, W, & Co., Trusses .. lviii
Crossley & Co. 709
Dinneford & Co., Gloves, &c. 782
Domen Belts Co. 772
Down Bros. 764
Evans & Wormull 770
Ferris & Co. Bristol, lxiv, 799, and Inside Back Covers
Gale, G. & Sons 773
Haywood, J. H. 783
Hurst, A. & Co., Electricians 765
Krohne & Sesemann lxiii
King, Mendham & Co., Electricians 780
Liverpool Lint Co. Antiseptic Dressings 766
Mayer & Meltzer ii
O'Connor Extension Co. .. lxiii
Statham, H. & Co., Bandages 774
Sumner, R. & Co. Inside Front Cover
Wright, C. & Co. 769

MISCELLANEOUS.

Biltor Co., The, Pipes .. ix
Bradford, T. & Co., Laundry Machinery 797
Brown, T. S., Hair 782
Calvert F. C. & Co., Carbolized Tow 769
Clarkson, W., Wigs 776
Coventry, J. E., Chiropodist 783
Fry, J. S. & Sons, Cocoas Inside Front Cover
Hunt, H. & Co., Stoves .. 777
Pearce, C. W, & Co., Californian Wines viii
Phillips & Co., Tailors .. 776
Reading, H. & J., Carriages .. 774
Renner, Dr., Calf Lymph .. ix
Rowntree, H. I. & Co., Cocoa 791
Scott & Ferguson, Medical Printers 694
Scott, James, Massage .. 728
Wright, J. & Co., Medical Printers 711

KROHNE & SESEMANN'S

INHALERS

For the PRECISE, SYSTEMATIC, and

Safe Administration of Chloroform and Methylene.

The Lancet, Nov. 15th, 1890, says:—"The fact should never be lost sight of, that many of the dangers ascribed to Chloroform and Methylene are in fact due to the imperfections of the methods used in their exhibition. With K. & S. REGULATING INHALER a precise dilution can be effected, and the RESPIRATION INDICATOR is a precise safeguard against accidents."

ILLUSTRATED DESCRIPTION sent FREE on application to

KROHNE & SESEMANN,

8, DUKE STREET, MANCHESTER SQUARE, W.; and
241, WHITECHAPEL ROAD, E., LONDON.

The Profession are invited to call and inspect

THE NEW APPLIANCE

FOR THE

LAME

(THROUGH SHORTENING OF LIMB)

BEFORE.

THE

O'CONNOR PATENT EXTENSION

ENABLES THE WEARER

To dispense with unsightly Cork Soles and Irons
To conceal all appearance of Deformity
To wear ordinary Shoes
To possess the appearance of having

TWO PERFECT FEET.

AFTER.

ADDRESS—

THE O'CONNOR EXTENSION CO.,

275, 276, High Holborn, LONDON, W.C.

FERRIS & COMPANY'S

PREPARATIONS OF THE

Thyroid Gland of the Sheep

For the Treatment of MYXŒDEMA.

THE preparations mentioned below have been produced as the result of a series of experiments which have been carried on in our laboratories for some months past.

They have received most careful trial in actual treatment, and, while convenient in form, may be relied on as thoroughly active.

Each gland is minutely examined before being used, and all diseased lobes are rejected.

Every appliance employed during the process is kept carefully sterilized.

THYROID EXTRACT (Ferris).

This is a sterilized glycerine Extract, containing all the active constituents of the fresh gland.

The mode of extraction ensures the removal of the principle, whether it be a ferment, or a combination of globulins and albumoses.

One fluid drachm of **Thyroid Extract** (FERRIS) is equivalent to half a fresh gland.

DOSE : 15 minims to a fluid drachm.

Sent out in half-ounce stoppered bottles, price 2/- each.

THYROID POWDER (Ferris).

By carefully drying the glands at a low temperature, a powder can be obtained, having a pleasant odour resembling that of pepsine.

From this the **Thyroid Powder** (FERRIS) is prepared, being carefully standardised so that 60 grains of the powder represent one fresh gland.

It is quite as active as the extract, and is in many respects more convenient.

DOSE : 5 to 30 grains.

Sent out in stoppered bottles, containing 120 grains, price 2/- each.

We call special attention to the

THYROID CAPSULES (Ferris) and THYROID PILLS (Ferris).

The Flexible Gelatine Capsules are filled with our freshly-prepared "Thyroid Powder." Each capsule is equivalent to ¼th part of a fresh gland.

These Capsules are perfectly tasteless, and ensure the administration of the remedy in accurate dosage and undiminished activity.

DOSE : One to four capsules.

Sent out in bottles, containing 20 capsules, price 2/6 each.

Each Pill is equivalent to an eighth part of a fresh gland. DOSE : 1 to 4 pills.

In bottles containing 3 dozen pills, coated, 3/- each.

FERRIS & COMPANY, BRISTOL.

THE MEDICAL ANNUAL.

PART I.—THERAPEUTICS.

The Dictionary of New Remedies

AND REVIEW OF THERAPEUTIC PROGRESS FOR 1893.

THE THERAPEUTIC GAINS OF THE PAST YEAR.

By Prof. H. A. HARE, M.D.,

Professor of Therapeutics and Materia Medica in the Jefferson Medical College, Philadelphia, and Editor of "The Therapeutic Gazette."

In the article contributed to the last "Medical Annual" a general view of our therapeutic status was taken, and for this reason the article for the ensuing year must be confined to the twelve months through which we have just passed. With perhaps one exception there has been no addition of great importance to our methods of treating disease, although the year has not been barren of good results in improving our therapeutic knowledge. One great gain has been the general introduction and employment of the **Thyroid Gland** in myxœdema and cretinism, not only because of the definite results obtained by its use, but also by reason of the promises held out of equal gains in nearly related conditions. While it is true that years have elapsed since evidence was brought forward that the abnormal thyroid gland and dystrophic states were associated, it has only been during the last few months that the evidence has found practical application in the relief of these conditions, and to Murray, of England, belongs the credit of having actually instituted the advance. This therapeutic gain is also a cause of congratulation from another standpoint, namely, that the entire line of thought and study associated in its final development was based upon rational deductions from careful experimental and scientific researches upon the thyroid gland, beginning with the early contribution of King in 1836, and ending with the clinical application of the results of further studies in 1893.

King showed that the thyroid secreted a peculiar fluid which found entrance to the general system through the lymphatics, and Crede,

Zesas, Horsley, Albertoni, and a number of others, showed that extirpation of the thyroid gland resulted in the development of a train of characteristic symptoms practically identical with myxœdema.

Then followed studies showing that in the event of partial thyroidectomy the remaining portion of the gland rapidly hypertrophied and the pathognomonic symptoms of thyroid extirpation failed to appear. After this the transplantation of glandular tissue from one animal to another, in which extirpation had produced the lesions, resulted in improvement, and the final step consisted in performing such an operation on man. The difficulty of maintaining rigid asepsis in this method, the possibility of failure of growth or vitality of the gland in its new surroundings, and inability of the surgeon to determine how much gland should be used, have all done much toward rendering this line of treatment unpopular. For similar reasons the hypodermic injection of the juice of the gland obtained by expression has not found general favour. The method which should be followed is the use of the minced raw gland taken by the mouth, mixed with food, or the administration of a glycerine extract hypodermically or by the mouth.

The following method is probably the best for the preservation of the extract, unless the physician desires to employ the dried or desiccated gland in powder. The thyroid gland is finely minced, and an equal bulk of glycerine poured over it. The mass is then placed in a fine sieve or bag of fine cloth and firmly squeezed, being kept under pressure for some time. The addition of the glycerine has two advantages, namely, that it is a solvent of the active portion of the gland and prevents it from undergoing putrefactive changes. Of such an extract the beginning dose should not be more than 10 or 15 drops. The amount of the gland, when minced and given with food spread on bread or mixed with anchovy paste, should be from 1 to 2 drachms, or as much as one lobe of a moderately sized thyroid. Care should be exercised that too much of the gland is not given at a dose, as severe symptoms may ensue which have at least in one case aided very materially in causing death. These symptoms consist in violent headache, great weakness, profuse sweating, and sometimes a rise of temperature. Even ordinary doses are prone to produce an increase in pulse rate, and over-doses may cause tachycardia. During the treatment, particularly at the time the doses are given, the patient should be kept in bed. The signs of improvement may be recognized in a month, but the treatment must be persisted in for a long period of time. Indeed it is probable that in some cases permanent relief can only be obtained by perpetual dosing or by the operation of transplantation. Certainly the most complete summary of this subject

is that of Dr. Kinnicutt, of New York, who has published two papers, one in the "Transactions of the Association of American Physicians" for 1892; and one in the "Medical Record" for October 7, 1893, in which he gives tables illustrating the results obtained by various clinicians, by grafting, hypodermic injection, and feeding of thyroid gland.

Reasoning from analogy it has been but a step from the use of the thyroid gland in myxœdema to the employment of the pancreas, or an extract of this gland, in diabetes mellitus, since competent physiological and pathological investigators have proved that atrophy or other severe disease of the pancreas results in disordered glycogenesis or glycolysis.

Mackenzie has contributed an interesting report concerning the results reached by him both theoretically and practically. Without regard to the question of whether the cases under his care were instances of diabetes due to pancreatic disease or not, he placed two men upon half an ounce of liquor pancreaticus three times a day with their meals and failed to decrease the amount of urine or the sugar it contained, although the patients both insisted that they felt better. He does not think this was due to any improvement in digestion. On the other hand, in a case of Dr. West there occurred a decrease in urine and sugar of 50 per cent., viz., from twelve to six pints in twenty-four hours. A very notable part of the improvement in all three cases was the decrease in thirst and in lassitude. Neville Wood records two cases of diabetes in which the improvement was so slight as to amount to naught. The results obtained by Hale White are also not encouraging. The manifest difficulty in resorting to pancreas as a rational means of cure in diabetes is that it is often impossible to diagnose the pancreatic disturbance, and the results can only be satisfactorily analyzed when they are obtained in large numbers from cases of diabetes certainly pancreatic in origin. The occurrence of pancreatic diabetes in man is so rare that some time must elapse before we can reach conclusions of value. We must clearly separate these uncertain but rational measures from the absurd claims advanced by some persons as to the therapeutic value of extracts derived from organs which are in no way capable of the influence possessed by the thyroid and perhaps by the pancreas.

The determination of the fact that **Hyoscine** was the contaminating constituent of commercial hyoscyamine, and that it was upon this impurity that the hypnotic powers of the latter alkaloid rested, naturally attracted attention to the possibility of other active principles of the *Solanaceæ* having hypnotic power. **Duboisine** seems

fair to prove that it can rival hyoscine in certain cases, if the results reached at home and abroad prove to be constant. Thus, in the hands of Mazzochi and Antonini, in Italy, the neutral sulphate of duboisine has proved an efficient hypnotic in the same class of cases as we have found hyoscine to benefit, namely, cases of mental disorder associated with insomnia. In thirty patients, sleep, lasting from five to six hours, came on within fifteen minutes after a dose of from $\frac{1}{150}$ to $\frac{1}{100}$ grain was given hypodermically. Some mydriasis was always caused, and in some instances some manifestations of weakness developed, but these observers never noted any vomiting, vertigo, or hallucinations. The cases varied in severity from those with exaltation of ideas to furious mania. Both these clinicians and Belmondo think the drug aids in improving the intelligence very markedly. Of course, there are instances where the drug fails, but if the results reached by Albertoni are duplicated, we may believe that duboisine is also of value in hystero-epilepsy.

The fact that poisonous doses of phosphorus are so often swallowed by accident, or with suicidal intent, renders an efficient antidote of great value, particularly in view of the secondary changes produced in the various organs by the poison. For many years we have been taught that old ozonized oil of turpentine was the best antidote, but practical experience has proved this liquid of little value, and almost never to be found. Sulphate of copper has also been recommended for the purpose of oxidizing the phosphorus; but, according to the recently completed studies of Thornton, this substance, if given in sufficient dose to antidote the phosphorus, may produce a more rapid death than the phosphorus itself. Carrying his studies still further, Thornton has found that **Permanganate of Potassium** is by far the most efficient clinical antidote, and infinitely less poisonous of course. **Peroxide of Hydrogen** has also proved of service in his hands, and should always be employed if permanganate of potassium cannot be had.

In the "Medical Annual" for 1893, the method of treating various disorders of the intestine by **Enteroclysis** was mentioned as a distinct advance in therapeutics, and the past twelve months have certainly done much to increase the confidence of the profession both in this method and in hypodermoclysis. Its employment in cholera need not be discussed in this article, since its usefulness is undoubted in this disease. Its larger sphere of employment, however, for the average practitioner is its use in the summer diarrhœas of young children or infants, and by far the most exhaustive and careful study of its value has certainly been contributed by R. E. Müller. His connection with a large sanitarium for sick children of the lower classes brought to his

hands a wealth of material for his work, and the results were of the greatest value.

Further than this, he extended his studies from the bedside to the laboratory, and thus has been able to present us with clinical results linked to scientific investigation.

The method of procedure in employing enteroclysis in children has been found by Müller to be most successful when carried out in the following manner. A graded glass bottle of a capacity of at least two pints is required, and an O'Brien's rectal flexible rubber catheter, ten inches long and a quarter of an inch in diameter, with two openings on opposite sides close to its tip, is attached to the free extremity of an ordinary tube four feet long connected with the reservoir. The injection of air is by this means avoided, and the rapidity of the injection of liquid can be regulated by compressing the rubber-tube with the fingers, or by means of a clamp. If the inflammation of the bowel is chiefly limited to the rectum, a shorter catheter may be employed. The child should be placed on a bed, which is protected by a rubber sheet, or a Kelly pad, and a catheter lubricated with vaseline gently introduced into the anus. A stiff tube should never be employed. For the first inch, the catheter should be introduced in the direction of the umbilicus, and then towards the hollow of the sacrum, when, by its semi-rotary movements, it can be gradually slipped into the lowest part of the sigmoid flexure. The vessel containing the liquid should be held about two feet above the patient, and a small amount of water allowed to trickle into the gut. Those cases which are associated with fever are benefited by employing water at a temperature of from 52° to 55° F., or even lower than this. If the child be very weak, this low temperature, however, is to be carefully avoided. Ordinarily, a temperature of the water at 65° is quite sufficient to lower the fever. The number of irrigations, and the intervals between them, will depend mainly on the gravity of the case. Generally, every four hours is sufficient. Sometimes, however, if the temperature is persistently high, they may be given every hour for a short period. If the algid state of cholera infantum has been developed, warm saline injections should always be employed. The result of this treatment is not only a reduction of the temperature in febrile cases, but also a relief of the symptoms of irritation of the digestive organs. The vomiting ceases in most instances after the first or second injection, and there is an improvement in the colour of the mucous membrane wherever it is visible. The intense thirst is moderated, the mouth becomes moist. The nervous symptoms, such as stupor and convulsions, are materially modified, so that sleep sets

in in most cases immediately after the enteroclysis, and continues until the fever or other symptoms come on with sufficient severity to disturb it.

Müller is thoroughly convinced that the dangerous effects of the poisonous animal alkaloids are either diminished or counteracted by irrigation. He finds that, as a rule, it is practically impossible to pass the injection through the ileo-cæcal valve unless considerable force is employed.

A complication of the use of enteroclysis is the development of irritation and eversion of the rectal mucous membrane, and the patient may be saved much pain and annoyance by administering, fifteen minutes before each enteroclysis, 3 to 5 grains of iodoform in sweet oil, which at once exerts its anæsthetic influence, and at the same time the parts are lubricated and soothed.

Nux Vomica and its alkaloid **Strychnine** have come to be widely employed in two conditions in which heretofore their use has not been general, namely, in snake-bite and in uterine inertia. In the first of these an enormous clinical experience, most of which has become part of medical literature during 1893, has proved strychnine to be practically a specific for the constitutional symptoms which develop as a result of the absorption of the poison. The chief credit for its general employment in snake-bite is undoubtedly due to A. Müller, of Australia, whose emphatic reports of his success by the use of strychnine has caused its general use, which is now resorted to because of its well-recognized merits.

The dominant rule governing the employment of strychnine under these circumstances is to give it for effect, not measuring its dose by fractional parts of a grain. It must be given hypodermically in the dose of $\frac{1}{20}$ or $\frac{1}{10}$ grain every hour or even oftener at first until the improved respiration and pulse show that no more is needed, or distinct premonitory signs of a typical strychnine nerve storm are manifested. An advantage of this method is that it can be resorted to after the poison has been absorbed with some prospect of the powerful stimulant effect of the strychnine overcoming the coma and collapse. The cases reported are of course not all favourable, since many of them had already advanced so far as to be hopeless ; but, on the other hand, the recoveries recorded in Müller's little brochure, and by many contributors to the "Australian Medical Gazette," are in many instances so extraordinary as to be well worth reading. It is apparent, too, that the influence of the drug is favourable in nearly if not all forms of poisoning from venomous snakes, including that caused by the rattlesnake. Certainly the results obtained by Müller,

by the administration of strychnine, when coupled with those of Barber who has used deep injections of permanganate of potassium about the snake wound with remarkable success, form a distinct and permanent gain in our methods of treating an accident which annually destroys hundreds of human beings in many parts of the world.

The second use of strychnine referred to, namely, its employment in cases of uterine inertia, has been both experimentally and clinically proved to be based on rational grounds. While it has not been shown that the drug possesses any direct influence over the uterus itself, the general stimulant effect upon the nervous system, particularly the spinal cells from which originate the impulses which result in uterine contractions, is so powerful that the efforts at expulsion of the child are renewed. At the same time the flagging respiration and heart feel the stimulant effect so characteristic of this drug. Further than this there is distinct evidence that strychnine tends to decrease the danger of post-partum hæmorrhage by increasing the uterine contraction after labour.

An interesting addition to our knowledge of the effects of **Arsenic** when given in ascending doses has been the cases reported during 1893 in which a peripheral neuritis was produced. These reports have emphasized the fact, already known, that arsenic possessed the power of producing such a lesion when taken as a poison, and serves to recall to the mind of the physician the fact that even in medicinal quantities its influence on the peripheral nerves may be unfavourable.

The past year, like several of its predecessors, has developed a large amount of both clinical and experimental research concerning the action of **Chloroform,** and it is hoped that the results reached may to some extent at least be considered final.

There seems to be no doubt that the dominant effect of chloroform when given by inhalation is to produce vaso-motor depression, followed in turn by depression of the respiration and heart. Further than this, it seems proven that it is practically impossible to produce anæsthesia with chloroform without depressing the blood pressure. For this reason the use of atropine before chloroform is used is of value, not so much for any effect it may have on the heart or the vagus nerves, as for the influence of the belladonna in preventing dangerous vaso-motor depression. It seems to be definitely decided, too, that while chloroform does have a tendency to act as a circulatory depressant, its chief source of danger lies in the respiratory apparatus, and that respiration is the function to watch during the use of the drug, since this vital function is the first to be disturbed, and its disturbance at once varies the amount of the drug absorbed. The

fact is that before enough chloroform can be given to seriously affect the heart, the respiratory function shows signs of disorder, which, if ignored, and the use of the drug persisted in, may result in cardiac arrest. The inhalation should be stopped until respiration becomes regular as to depth and rhythm.

To be sure there are cases in which sudden, unannounced cardiac death takes place, but these are very rare and cannot be avoided, and depend upon true fatty degeneration or other lesion of the heart, which would result in death in the presence of any disturbing factor, such as nervous shock or sudden exertion. One thing becomes plainer each year, viz., that chloroform far exceeds ether in danger while the patient is in the hands of the surgeon ; on the other hand, the deaths due to ether from anuria, pulmonary disorder, and vomiting after the patient is put back to bed, if recorded and properly credited to this drug, might prove chloroform to be the least mortal of these two drugs.

Gains in therapeutics and medicine come about in two ways : by brilliant discoveries, and by slow but often more permanent advances, which, because of their conservative character, imbue us with confidence, in their reliability. The past year has improved our methods in the last-mentioned manner, and it is to be hoped that 1894 may be equally progressive.

AGATHIN. [*Editorial.*

This is said to be obtained by condensation of salicylaldehyde with α-methylphenylhydrazine.

It is odorless and tasteless, insoluble in water, soluble in alcohol and ether, and can be melted at 166° F.

It has been used as an analgesic in doses of 7½ grains for **Neuralgia, Sciatica** and **Rheumatism.** The action is not prompt, and much larger doses are necessary to produce a decided effect.

ALUMNAL.

An aluminal salt, said to be a combination of an aluminium salt with naphthol sulphate. It is a fine white powder, very soluble in water, in glycerine, and in warm alcohol. It is insoluble in ether, and is without odour. It is employed as an antiseptic astringent, and said to be harmless. Mixed wtth inert powders, it is used in the strength of 10 to 20 per cent. ; in aqueous solution, 1 to 5 per cent. ; in alcohol, 2 to 10 per cent. ; and in the form of ointment, 2 to 20 per cent.

M. Chotza[1] reports favourably of its action in **Eczema, Erosions,**

Abscesses, Erysipelas, etc. It precipitates albumin, but is redissolved in excess of albumin ; it dissolves in purulent secretions, and can be readily used in secreting sinuses and cavities.

Prof. Eraud[2] concludes an article on this substance as follows : "Its effects have not, so far as I have been able to judge, been either better or worse than those of any other similar agent employed for a similar purpose. In no case did it cause smarting or increase of the inflammatory symptoms."

REFERENCES.—[1] "Berlin. klin. Woch.," No. 48, 1892; [2] "Med. Press," Dec. 14, 1892.

ANALGEN.

This is an analogue of phenacetin and antifebrin, with the important difference that it is a derivative of the quinoline group, which latter has a marked therapeutic and physiological action of its own, whilst phenacetin and antifebrin are derived from the benzene ring which in itself possesses no such properties.

It is claimed to have similar effects to antipyrin, without any unpleasant toxic results. A large number of German physicians have described cases illustrating its results as an **Analgesic,** but the records are too limited to prove whether it is superior to other analgesics of the same class. It is employed in doses of 7 to 15 grains. Our own trial of the drug shows its capacity for diminishing pain, but it is less conveniently administered than antipyrin, owing to its insolubility. The following makes a solution which will keep fairly well : Analgen, 10 parts ; Alcohol, 70 parts ; Water, 220 parts.

Headache is sometimes caused by its use, and it frequently gives the urine a red colour, which is due to chemical action, and not to any physiological effect on the kidney.

Spiegeberg[1] gave usually 45 grains during the day, in cases of **Neuralgia,** etc., with favourable results. In one case of **Bronchial Asthma,** good effects followed after six doses of 7½ grains, given during twelve hours. Fewer doses had little effect.

REFERENCE.—[1] "Munch. med. Woch.," April, 1893.

ANTIPYRIN.

A detailed description of the toxic symptoms produced by antipyrin appeared in the "Medical Annual," 1889, p. 14.

Many cases have lately been recorded of the peculiar rash produced by this drug.

O. Gutsmann[1] gives the case of a man after 10 grains. Collapse, with cold extremities, vomiting, hoarse voice, and sunken eyes. The radial pulse could not be felt, and the temperature was 34·5° C. The stools were solid. There was a deep rose-red rash on the trunk.

He answered questions slowly, complaining of headache and noises in the ears. At times he could not see, and at others he would see two, three, or four inverted images. He had taken in all 10 grains of antipyrin. After the first dose of 1 grain, he had giddiness and difficulty with his sight. Not being aware that these symptoms were due to poisoning, he continued to take the drug twice a day with the above-described result.

Prof. Eichhorst,[2] gives the case of a man after a dose of 7 grains. General symptoms resembled enteric fever. Three days after admission, large patches resembling measles made their appearance—first over the lateral aspect of the abdomen, on the next day very abundantly on the neck and legs, especially the thigh. The face was only slightly involved; the mucous membranes were free. The rash remained for seven days, and disappeared by gradual and slow paling of the skin without scaling.

The same author records the case of a man after 15 grains. One hour afterwards there appeared an extensive rash in large patches, which remained but a few hours. Four days later there occurred for the second time a pronounced eruption resembling measles, though the patient had been treated in the interval with phosphoric acid and warm baths; and this lasted several days. The recurrent rash was in small patches.

Moeller[3] records that after 15 grains he experienced the following symptoms: In a few hours the finger-joints became swollen, and the skin covering them and the backs of the hands erythematous. The lips, nostrils, auditory canals, and conjunctivæ were reddened, swollen, and somewhat painful. Patches of erythema also appeared upon the scrotum and glans penis, and upon the latter a small ulcer formed, which healed in a fortnight, leaving no scar. Another attack, similar in every respect, occurred six weeks later after another gramme dose. In spite of careful protection, too, an ulcer again formed upon the glans. Moeller had before frequently taken antipyrin from time to time without any such effects, which could not presumably be ascribed to impure samples of the drug.

Short[4] also reports a case of erythema affecting the same sites after a dose of antipyrin, which had been taken previously without unusual results.

REFERENCES.—[1] "Therap. Monatshefte," Oct. 1892; [2] Ibid., No. 8, 1892; [3] Ibid., Nov. 1892; [4] Ibid., Sept., 1892.

ANTITOXIN.

The use of the blood serum of rabbits, which have been previously made "tetanus immune" as a remedy for tetanus, has been referred to in the "Medical Annual," 1892-3.

Barth[1] records the case of a lad with severe tetanus who received injections of "50 cc. of antitoxin serum of the potency of 10 millions." The patient made a good recovery. There was scarcely any local reaction—only a little tension without redness or inflammation at the sites of injection; this disappeared in a few days. A considerable rise of temperature was noted during the twenty-four hours following the first injections. This febrile disturbance, however, subsided rapidly, and did not recur; but two days later profuse sweating took place, followed by an urticarial eruption, which lasted thirty-six hours.

REFERENCE.—[1] "Sem. Med.," March 8, 1893.

APIOLINE.

Dr. Pelletan,[1] Paris, states that the drug administered in spherical capsules of 20 centigrammes each has proved in his hands a true stimulating emmenagogue, acting directly on the ovaries and uterus, or the ends of the nerves contained in them, by irritation of the mucous membrane, during its elimination through the utricular glands, and by producing hyperæmia of the ovaries during its circulation through them; the pain in spasmodic or congestive **Dysmenorrhœa** is thereby relieved. It is, moreover, indicated in atonic **Amenorrhœa** when the uterus and the ovaries are primarily at fault, and the inactivity is not due alone to anæmia. In fact, in all cases amenable to internal remedies, where a correct diagnosis of the symptoms had been made and suitable hygiene and treatment observed, he found apioline relieved the suppression, regulated the catamenia, prevented or removed the accompanying pain, and proved to be a most powerful emmenagogue.

Apiol (which contains the active properties of the fruit of the common parsley) has for some time been before the profession as a remedy for amenorrhœa, but the results have not been very encouraging.

REFERENCE.—[1] "Therap. Gazette."

ASAPROL.

This is β-naphthol-α-monosulphonate of calcium, and occurs in the form of a white powder, very soluble in water (1 in 1½ of cold water, and 1 in 3 of alcohol); at 50° C. it undergoes decomposition.

Stackler[1] claims that it is useful as an antipyretic, and also as an intestinal antiseptic. He has used it in **Typhoid Fever, Influenza** and **Pneumonia, Tonsillitis, Boils, Sciatica, Rheumatism, Asthma**, and other disorders. He claims for it valuable analgesic properties.

Dr. Dujardin-Beaumetz has expressed a favourable opinion respect-

ing its action. It is given in cachets (7 to 15 grains), or in solution of the strength of 5 per cent.; ointments, 1 to 3. The commencing dose is 30 to 60 grains. It is incompatible with the salts that precipitate lime, the soluble sulphates, bicarbonate of sodium, and iodide of potassium.

REFERENCE.—[1] "Bull. Gén. de Thérap.," No. 22, 1892.

BENZANILIDE.

This occurs as a white powder, melting at 161° C., and dissolving in 60 parts of cold, or 7 of hot alcohol. It is insoluble in water, and with difficulty dissolves in ether; it has a slightly caustic taste, but no marked odour. It is closely allied to acetanilide.

Luigi Cantu[1] describes it as a valuable antipyretic. The action begins from half an hour to an hour after the drug is taken, and the maximum effect is reached after four or five hours, when the temperature again begins to rise, so that in ten or twelve hours it has reached its original level. The respiration is not affected, save that occasionally it is increased in frequency. On the other hand the pulse becomes slower and softer, and its tension as measured by the sphygmomanometer shows marked diminution; this effect does not seem to be in proportion to the effect on the temperature. No disturbance of the digestive organs was observed in any of the cases in which the drug was given. The urine was not altered in quantity, density, or reaction; its colour was somewhat dark, approaching a greenish tint, the colour increasing in intensity after exposure to light and air. With large doses the colour sometimes became nearly black. This urine yields the reaction of para-amido-sulphuric acid.

It was administered in doses of 15 to 30 grains, 60 to 90 grains being well borne during the twenty-four hours. It is given in capsules.

REFERENCE.—[1] "Rif. Med.," Aug. 2, 1892.

BENZOATE OF SODIUM.

Dr. Liégeois considers that the beneficial effect of this salt is best obtained when large doses are administered. For ordinary **Sore Throat,** he gives from 1 to 3 drachms during the day, and claims that it speedily relieves the pain and inflammation at the onset of **Laryngitis** and **Acute Bronchitis.** He prescribes it as follows:—

℞ Benzoate of Sodium	ʒj	Syrup of Tolu		
Tincture of Aconite	♏xx	Syrup of Codeia		āā ʒij
Cherry Laurel Water	ʒj	Water		ʒij

Sig.—To be taken in the twenty-four hours.

Associated with tannin, benzoate of sodium gives good results in **Bright's Disease** if persevered in :—

℞ Benzoate of Sodium		Extract of Gentian	q.s.
Tannin	āā ʒiss		

Sig.—Divide into one hundred pills—6 daily.

Given in small doses in cases of **Gravel**, due to uric acid, it transforms the insoluble urates into soluble hippurates, and thus eliminates it from the urine. As a cholagogue, benzoate of sodium occupies the first rank ; he associates it with salicylate of sodium and rhubarb :—

℞ Benzoate of Sodium		Rhubarb	āā ʒj
Salicylate of Sodium		Nux Vomica	grs. 10

Sig.—Divide into twenty powders—2 daily.

REFERENCE.—" Med. Press and Circ.," August 24, 1892.

CHLORALOSE.

This is a crystallized body, formed by the reaction of anhydrous chloral and glucose on each other, with elimination of water.

Hanriot and C. Richet[1] claim for it more active hypnotic effects than chloral, it giving refreshing sleep when morphine and chloral failed. Its physiological action may be summed up in the statement that it has a hypnotic effect on the encephalon, and an excitant effect on the medulla.

Dr. Féré[2] reports that he tried this drug in **Hysteria, Epilepsy,** and **Chorea**. He very soon found that much larger doses of it could be used than had been mentioned by Richet and Hanriot. Some of his patients took as much as 35 grains without harm. Nevertheless, the sleep produced by it in the conditions referred to, for example, in hysteria, was sometimes of a stertorous character ; moreover, involuntary micturition during sleep occasionally occurred, and this indicated a profound suspension of cerebral activity. In some cases doses of 22 or 23 grains had produced sleep in epileptics. Excited subjects became tranquil after a sleep thus artificially induced. He never knew the drug to disorder the stomach. Dr. Chouppe for ten days gave chloralose to a neurasthenic who was affected with gastric trouble, and not only was sleep produced, but the **Dyspepsia** was cured.

M. Landouzy[3] during eight months used it on thirteen patients, who were all neurasthenic and without fever or organic disease, and all bad sleepers, to whom the ordinary sleeping draughts were useless. In eleven cases comfortable refreshing sleep was obtained with doses of 4 to 9 grains ; sometimes four or five hours' good sleep was obtained with a dose of 4 grains at 11 p.m., and two or three hours'

more after a second dose of 3 grains in the early hours of the morning. In a few instances there was slight headache or vertigo for an hour after waking; in two women in whom neurasthenia was severe there was no success, but the drug was followed by headache, nausea, faintness, and irregular action of the heart. Some patients took it every night for six weeks, some every other night, and M. Landouzy records his opinion that its results were, on the whole, decidedly better for such cases than those of chloral. In seven other cases where there was much pain it was of doubtful advantage.

M. Paul Marie tried it in a series of twelve patients with good results in most of the cases, even with doses as small as 3 grains; but in two alcoholic cases of insomnia 4 grains gave little or no relief, and morphine was considered preferable. M. Moutard Martin records eight cases on whom he had tried it in doses not exceeding 6 grains with very good results. There were no sequelæ of discomfort.

M. Ch. Ségard gives equally good reports of its effects in one case of **Neurasthenia** and two of **Chronic Valvular Disease of the Heart**; but he found it of comparatively little use in the pains of gout and neuralgia. In a case of paralysis agitans a dose of 10 grains was given which was followed by heavy sleep, but at the same time increase of muscular tremor. All the physicians who have tried chloralose agree that it has no bad effect, either irritant or constipating, on the digestive tract. The taste is bitter. It is nearly insoluble in cold water, but fairly so in hot water. It is best administered in small capsules, each containing 1½ grain, or larger ones containing 3 grains, or it may be given stirred with a little milk. The dose ranges from 3 to 10 grains, but it may be increased if necessary.

REFERENCES.—[1] "Sem. Méd.," Jan. 11, 1893; [2] "Mercredi Med.,' March 1, 1893; [3] "Comptes Rend. Hebdom. de la Soc. de Biol.," January 20, 1893.

COCILLANA.

The action of this drug was described in the "Medical Annual," 1891, p. 22, and 1889, p. 33. The plant belongs to the order *Meliaceæ*, and is found in the warmer parts of Asia, Africa, and America. The same order yields mahogany, and woods of a similar type, and also the "red cedar" of the tropics. Only the thicker part of the tree is used by the natives, and the preparations used in medicine are prepared from this. Much valuable information concerning the botanical, chemical and pharmacological action of the drug appeared in a series of papers contributed to the "Brooklyn Medical Journal," July, 1893, and these are reprinted in the "Bulletin of Pharmacy," 1893, p. 350.

From the Clinical and Therapeutical Report, furnished by Dr. Reynolds Webb Wilcox, we glean the following interesting particulars.

He says: "The symptoms which are noted when the drug has been given in the crude state, that is, in the form of a powdered bark, are the production of nausea and a desire to vomit, with a metallic taste in the mouth, within about a half-hour after its administration and lasting an hour, the nausea being accompanied by an early discharge of mucus, and afterwards by dryness of the throat. These symptoms, so far as the throat is concerned, are not marked after the administration of either the fluid extract or the concentrated tincture. I think that the syrup produces this discharge of mucus, but not to such an extent as the crude drug. Presumably, these symptoms are of the same nature as those produced by ipecacuanha, which is locally irritating in that it increases secretion from parotid glands, mucous membrane of the nose, mouth and pharynx. The drug given in any form will sometimes produce a slight headache, rarely slight dizziness, although these symptoms do not appear with any great frequency. There is, with large doses, a desire to defæcate, which, however, may be restrained. This symptom is by no means so well marked with the syrup as with the other preparations. From this fact I infer that the resinoids extracted may contain the purgative properties of the drug. There is frequently a slight increase of perspiration; there is a considerable stimulation of vessels and glands, more especially the glands of mucous membrane of the bronchial tubes and of the digestive system. This stimulation, which shows itself by increased secretion, lasts for several hours, and is quite likely to be due to the elimination of the drug by way of these tracts. The leading indication for its use is a **Hyperæmia of Mucous Membrane**, unaccompanied by secretion. The cases in which I have used this remedy can be provisionally divided into three classes: those of **Acute Bronchitis,** those of **Subacute and Chronic Dry Bronchitis,** and those of **Chronic Disease of Pulmonary Tissue.**

"In each one of these three classes of cases, I believe we find a very excellent reason for the use of cocillana in preference to many so-called expectorants. In the first place, I regard it as a valuable substitute for ipecacuanha, and not only a substitute, but a drug that is in the vast majority of cases to be preferred to ipecacuanha. So far as I have been able to discover from an extended series of laboratory experiments, with the exception of a very few remedies, the expectorant effect of these remedies is simply an early stage of the emetic effect. In the case of ipecacuanha the distance between a purely expectorant result and an absolutely emetic result is by no

means a long one, and the use of ipecacuanha to obtain one or the other effect is simply a question of dose, and that, too, a dose not defined by hard and fast lines, but depending largely upon the peculiarities and idiosyncrasy of the patient. Now, what is true of ipecacuanha is true of a very large number of drugs of that class. On the other hand, with cocillana, the expectorant effect seems to be entirely separate from its purely emetic effect; for, with commencing expectoration, you do not obtain that relaxation of peripheral blood-vessels, that slight perspiration which so frequently accompanies an effective expectorant dose of ipecacuanha. On the other hand, for all that vomiting can be produced by an excessive dose of cocillana, it is only by its injudicious exhibition that we ever obtain this phenomenon, although I am free to say that vomiting, if obtained by cocillana, is extremely persistent, is accompanied by an abominable taste in the mouth, and is thoroughly prostrating; but the difference in doses is so great that these symptoms could only be obtained by the greatest carelessness. With the syrup which I have been using of late, a decided expectorant effect can be obtained with 1 or 2 drachms; emesis was only produced when 2 ounces had been taken at a single dose.

"As compared with the action of apomorphine, I believe cocillana presents certain advantages. The experiments that have been performed by many observers, including myself, show that expectoration in rabbits and cats follow uniformly the administration of a dose of apomorphine; the trachea, when opened half an hour after a hypodermatic injection of this remedy, is found to be filled with frothy mucus; the mucous membrane is seen to be pale, the blood-vessels hardly visible. On the other hand, with cocillana the expectoration, although not quite so profuse, is a trifle more viscid, and it seems fair to conclude that while apomorphine depletes the blood-vessels and removes serum from submucous tissues, cocillana stimulates the muciparous glands to action. There is a difference in time also, apomorphine acting within a half to one hour, cocillana being somewhat more slow, three to six hours being usually required. The expectorant effect of apomorphine passes off within two or three hours at the outside, thus necessitating frequent doses; while expectoration once established by cocillana, persists usually for from four to six hours, the longer intervals of administration for cocillana being a decided advantage; and so far as the expectoration goes, the teasing cough and the sense of stuffiness are, I believe, better relieved by cocillana, with its somewhat thicker expectoration, than by apomorphine, with its purely watery secretion. So, in cases of acute

bronchitis that are seen before forty-eight hours of the disease have elapsed, apomorphine will relieve more quickly; but in cases seen for the first time at a late period, I would prefer cocillana. I have not found that the rhythm of the respiratory act was affected, only so far as freer expectoration lowers the respiratory rate. That the expectorant effect of cocillana is not the first stage of nausea, is shown by the fact that an increase of appetite is usually observed even under full physiological doses, and, contrary to what we find with ipecacuanha, there is no change in the fulness of the pulse. In cases of acute bronchitis, also, the laxative effect of cocillana is valuable.

"In cases of **Chronic Bronchitis**, especially of the dry variety, I believe we find a larger field for the use of cocillana. Its expectorant effect is certainly surer than that of either apomorphine or ipecacuanha in liquefying bronchial mucus. It is better for continued administration because it increases the appetite, not because the drug itself acts like a simple bitter or its menstruum (alcohol) irritates the stomach, for the fluid extract and syrup are equally reliable in that direction, but because the drug is, as I have said before, a laxative, probably from stimulation of the intestinal muciparous glands. The increased number of movements of the bowels are not characterized by pain or tormina, but are simply movements increased in amount and of greater fluidity. The laxative effect of the syrup is by no means marked as compared with that of the concentrated tincture of the fluid extract. The expectoration is not so much influenced by warm diluent drinks as is that of apomorphine, ipecacuanha, or carbonate of ammonia, although the drug itself may produce a slight perspiration. In chronic bronchitis with viscid expectoration, cocillana will render the sputum liquid somewhat more surely than ipecacuanha, and it has the further advantage of not causing nausea. After continued use it seems to check the formation of mucus, either from sedation of the muciparous glands through over-stimulation, or, from more rapid expectoration, opportunity for decomposition is prevented and its irritating properties thus are not acquired. However, in cases of senile bronchitis, particularly in cases of calcified costal cartilages, it may so markedly add to the bronchorrhœa that it becomes absolutely dangerous, and particularly because it is not a stimulant to the respiratory centre like belladonna and strychnine. It is, however, just to say that a recent observer believes it to be a respiratory stimulant as well, although I have never been able to satisfy myself that such is the case. In these cases, then, it is useful only so far as it liquefies secretion. Although this is a limitation in the field of its usefulness, it is not one that we need deeply regret, because in a case like this, and especially where

we have a dilated right heart, we get such brilliant results from a combination of strychnine and carbonate of ammonia."

Dr. Wilson also mentions the following as a suitable means of administering the drug as an expectorant :—

℞ Extracti Cocillanæ Fluidi | Extracti Lippiæ Mexicanæ fl. āā ℥ss

Sig.—30 drops in a wineglass of water every four to six hours.

The following are the preparations and doses of the drug :—

Concentrated tincture of the bark, ½ to 2 fl. drachms every two to eight hours.

Fluid extract, 5 to 20 minims every three to six hours.

Syrup (containing all the active principles of the bark, except the resinoids and possibly a glucoside, if present, which are precipitated by water from an alcoholic solution), 1 to 2 fl. drachms every four to six hours.

DIAPHTERIN.

This is the oxyquinaseptol to which attention was directed by Professor Emmerich, of Munich, at the eleventh International Medical Congress. Together with Dr. Kronacher, he has since then made an extended trial of the substance, and the results are reported in a recent number of the Munich "Med. Wochenschrift." When applied to wounds it does not lose its antiseptic power, as some other phenolic substances do, but, as it is decomposed by alkalies and even by blood, with elimination of sparingly soluble oxyquinolin in a fine state of division, its antiseptic action is thus augmented. It occurs as a yellow powder, readily soluble in water, and is used as an antiseptic dressing in the form of a 1 per cent. solution. It is less poisonous than most phenols. Mr. Townsend calls our attention to the fact that this substance attacks steel instruments.

DIURETIN.

Dr. Keyes[1] writes to withdraw the claim he put forward for diuretin, as a drug capable of averting urinary or urethral fever.

Genersich[2], as the result of trials in sixteen cases, concludes as follows : (1,) Diuretin increases the flow of urine in some cases of cardiac dropsy, but is uncertain in œdematous conditions due to other causes ; (2,) It also acts when digitalis, strophanthus, and calomel fail ; (3,) As a substitute for calomel its action is not sufficiently reliable ; (4,) The heart is only slightly affected ; (5,) The disadvantages lie in the price, the unpleasant taste, its effects in deranging the intestinal tract, and the dangerous symptoms occasionally produced (headache, pyrexia, ecchymoses), which necessitate caution.

R. del Valle y Aldabalde[3] considers that : (1,) Diuretin is well borne, as a rule, by adults in an average daily dose of 5 grammes ;

(2,) In many cases it causes diarrhœa, and in some vomiting; in rare cases it causes vertigo and general *malaise;* (3,) In ascites of hepatic origin it is seldom of any use; (4,) In **Renal Dropsy** it does some good—more than any other drug; (5,) In **Cardiac Dropsy,** especially when associated with valvular mischief, it is of great value, proving beneficial when everything else has failed.

Dr. W. Cohnstein[4], as the result of his experiments, says that no rise of blood-pressure was observed, and that there was no constant influence upon the frequency of the pulse. No influence upon the energy of the heart's contraction was ever observed. In very large doses, there was finally a gradual fall of pressure, and occasionally also of pulse frequency. He concludes, therefore, that theobromine belongs to the group of drugs which act by direct irritation of the secreting elements of the kidney.

REFERENCES.—[1] Keyes, "Therap. Gaz.," March 15, 1893; [2] Genersich, "Central. f. Therap.," March, 1893; [3] Aldabalde, "Rev. de Med. y Cir. Pract.," Nov. 7, 1892; [4] Cohnstein, "Berlin. klin. Woch.," Jan. 23, 1893.

DUBOISIN.

Mendel[1] recommends the use of this drug in cases of **Insanity** exhibiting great motor agitation, if the restlessness be not simply a consequence of hallucinations and delusions. Doses of 0·0005 to 0·0008 gramme injected subcutaneously produce muscular relaxation in a few minutes. By thus suppressing the abnormal motor activity of such cases, sleep is promoted. The drug, however, has no direct soporific action; in melancholia, paranoia, etc., unassociated with restlessness, no sleep is produced. **Paralysis Agitans** is another affection in which notable temporary relief can be obtained from duboisin. Usually about a quarter of an hour after an injection the tremor subsides, and the patient for some hours regains the power to write legibly, to move about, or to sleep. In advanced stages of paralysis agitans, the effect of duboisin upon speech is sometimes prejudicial, sometimes favourable. Apart from the influence on the faculty of speech, 2 or 3 decimilligrammes of the drug twice or thrice daily may be continued for a long time without harmful result. The author very seldom exceeds 1 milligramme for a dose; dilatation of the pupils, dryness of the throat, and moderate acceleration of the pulse, may be caused by so small a dose as 0·2 milligramme. Sometimes vertigo and unsteady gait are induced; these, in the author's opinion, are due to the action of the drug upon the motor centres.

Belmondo[2] publishes his experience of one hundred and sixty-seven injections of duboisin in thirty-two patients. As a sedative in all

psychical or motor disturbances it resembles hyoscin; and as a hypnotic, it acts better than chloral in many cases. In acute insanity, especially **Acute Mania,** it acts as a psychical co-ordinator, and appears to exert a powerful influence on the course of the disease. The doses used were ½ to 1½ milligramme; larger doses are unnecessary, and cause loss of appetite and vomiting.

REFERENCES.—[1] Mendel, "Neurol. Centralbl.," Feb. 1, 1893; [2] Belmondo, "Brit. Med. Journ."; "Riv. sper. di fren. e di Med. leg.," vol. xviii.

EPIDERMIN.

This is a milky homogeneous mass made by mixing beeswax, water, and glycerine together, and adding lime or lead oxide as necessary. It is used as an application to the skin, and medicinal substances are mixed with it for the treatment of skin diseases. It leaves a delicate, flexible pellicle, which is said to retain its position for twelve to forty-eight hours.

REFERENCE.—S. Kohn, "Arch. f. Derm. u. Syph.," 1892.

EUCALYPTEOL.

Obtained by M. Anthoire by treating the oil of eucalyptus with hydrochloric acid. It occurs in the form of white micaceous scales, having an odour resembling that of camphor, and a peculiar, slight, but persistent, taste. The compound is almost insoluble in water and glycerine, but freely soluble in alcohol, ether, and chloroform, fixed and volatile oils, petroleum ether, and acetic ether.

Lafage[1] states that it is non-poisonous, and is well borne by the stomach. It is specially eliminated by the bronchial and salivary secretions, and partly also by the urine and the intestinal juices. On the secretions and excretions of the intestinal tract, the remedy exercises a *disinfectant* and *antiseptic* action. The drug was found advantageous in acute and chronic **Bronchitis,** exerting a prompt and rapid influence on the mucous membrane. Eucalypteol also acted effectively in certain **Pulmonary Affections,** proving that the action of the drug is not limited to the bronchi. Bacteriological examination showed that the remedy likewise possesses antiseptic and disinfectant properties, and its trial in intestinal disorders gave satisfactory results. The usual dose is from 15 to 20 grains during the day.

REFERENCES.—[1] Lafage, "Bull. Gén de Thérapeutique," Oct. 15, 1892; "Therap. Gaz.," Feb. 15, 1893.

EUPHORBIA PILULIFERA.

Dr. Rothrock[1] writes in praise of this drug in catarrhal and inflammatory affections of the lungs. He states that it acts on the respiratory and cardiac centres in a short time, increasing respiration and

pulsation of the heart for a brief period, then retarding both. He noticed in some of the cases, where one drachm was administered, a weakness of the first sound of the heart, with dyspnœa, and cardiac and respiratory embarrassment. He believes it stimulates the liver, and also the kidneys, slightly. He considers the dose usually given as too large. He does not state whether the preparation used was a liquid extract or a tincture.

REFERENCE.—[1] Rothrock, "Medical Summary," Sept., 1892.

IPECACUANHA (Sine Emetine).

Ipecacuanha deëmetinisata is rather a formidable word to signify the preparation of the drug which has been deprived of its emetine. Dr. Kanthack, of Liverpool, and Mr. Caddy, of Calcutta, contribute an article on this preparation to the "Practitioner," June, 1893. They recommend the form prepared by Merck, in preference to the specimens manufactured by English and Indian chemists.

The administration by Dr. Crombie of this preparation on eighteen occasions was followed by vomiting in sixteen instances, and the authors appear to consider this as satisfactory. Dr. Crombie concludes that "neither ipecacuanha B.P. nor Merck shows any special advantage in the treatment of dysentery, as compared with the treatment by means of bismuth and Dover's powder, which causes no distress whatever. If, however, driven to use ipecacuanha, I shall certainly give the preference to the deëmetinised form."

Dr. Crombie refers to the "Medical Annual" for 1893, p. 187, where his views on the treatment of dysentery, and the results of his great experience while superintendent of the Calcutta Hospital, are given.

The authors consider the question as to whether the antidysenteric powers of ipecacuanha are due to the emetine it contains, and while they assert that the statement in the affirmative advanced by Ward and Wardle is "erroneous and untenable," they do not afford proof to the contrary, neither do their results supply sufficient evidence that Merck's preparation is more effective as a remedy for dysentery than other forms of the drug.

The most important result of their investigations is to show that when ipecacuanha is deprived of its emetine in the most careful manner possible, and Merck has accomplished this more completely than others, that its power of producing vomiting is only diminished and not arrested. On the other hand, it has been proved that emetine in combination with biniodide of mercury or tannic acid may be given by the stomach without producing vomiting. This shows that the emetic properties of ipecacuanha are not due entirely to the emetine which it contains.

It is a question whether, by combining powdered ipecacuanha with tannic acid, a more effective preparation would not be obtained. It is said that ipecacuanha never produces vomiting when so combined. The paper referred to is the result of much careful labour on the part of its authors, and materially adds to our information respecting the drug.

LOSOPHAN.

This is said to be a tri-iodo-cresol. It contains 80 per cent. of iodine, is soluble in alcohol, and is readily taken up by fatty substances.

Saalfeld[1] has found it of special value in parasitic affections of the skin, both vegetable and animal. In sixteen cases of **Tinea Tonsurans** of the face and body, thirteen were cured and three much improved; and in three cases affecting the scalp, one was cured and the others much improved. In some cases of **Parasitic Sycosis** good effects were obtained; but, when necessary, epilation was also had recourse to. It was not useful in scabies, but proved beneficial in some cases of **Prurigo, Chronic Eczema** with infiltration, **Sycosis Vulgaris** and **Acne Vulgaris,** and **Rosacea.** In psoriasis and primary syphilitic affections it was without result, and in urticaria it was of little service as an anodyne application. As a drying powder (1 per cent.) for wounds it had but slight effect. It is contra-indicated in any acute skin disease, owing to its irritant properties even in dilute solutions. It is used in 1—2 per cent. solution in spirit and water, or as a 1 per cent. ointment.

REFERENCE.—[1] "Therap. Monatsh.," Oct., 1892.

LYSOL.

This is produced by dissolving in fat, and subsequently saponifying, with the addition of alcohol, the fraction of tar oil which boils between 190° and 200° C. It is a brown, oily-looking, clear liquid, with a feebly aromatic creasote-like odour. It contains 50 per cent. of cresols; and it is miscible with water to a clear, saponaceous, frothing fluid. It shows turbidity when mixed with hard water. It is recommended as superior to carbolic acid as a disinfectant, and is said to be especially useful when used as a soap for surgical purposes.

MORPHINE (Hydrobromate).

This is prepared by Dr. St. Lawrence Fenny as follows: To the pharmacopœial solution of hydrochlorate of morphine he adds, little by little, a solution of ammonia sufficient to neutralize the morphine solution and to render it distinctly alkaline; and sets it aside to allow complete precipitation, which takes place slowly. Having caught the precipitate on a filter paper, he redissolves it in diluted hydrobromic acid, and adds sufficient water to make it up to the same quantity as

the original solution of the hydrochlorate. The author considers this preparation as superior to other forms of morphine, and that it may be given when these are not well borne.

MYRRHOLIN.

Dr. Kahn, of Würzburg, employs a solution of myrrh in an equal quantity of oil, under the name of "myrrholin," together with creasote, in laryngeal and pulmonary phthisis. He finds that the myrrholin enables patients to bear the creasote far better than when the latter is given alone. He is not, however, as yet able to say whether the myrrholin exerts any direct action on the disease. He prescribes a mixture of 30 centigrammes of creasote with 20 centigrammes of myrrholin for a dose, to be taken in capsules.

A cerate of myrrh has also proved very useful in **Eczema** of the nostrils and in **Atrophic Rhinitis**, both simple and fœtid. Pledgets of cotton wool impregnated with the cerate are passed into the nostril, and allowed to remain ten or fifteen minutes.

NERIUM ODORUM (Nerium Oleander).

This is the ornamental shrub which has long enjoyed a reputation as being fatal to rats. M. E. Pelihon[1] shows that oleander first increases the heart-beats, and subsequently slows them. In frogs, the ventricles were arrested in systole, while the auricles continued their pulsation. The author considered the action of the drug in mammals to resemble that of digitalis.

Dr. Pouloux[2] repeated experiments on the frog with similar results as regards its action on the heart. He gave the drug in some cases of valvular disease of the heart, with favourable results; a diuretic action and disappearance of œdema accompanied the improvement of the pulse.

Schmiedeberg[3] showed in 1883 that the leaf contains two active substances, neriin, which is closely allied to digitalin, and oleandrin, which had been formerly described by Leukousky as an alkaloid, but which proved to be a glucoside.

V. Oefele[4], as a result of clinical experiments, states that when given in cardiac disease the pulse becomes slower, more regular, and more powerful. Diuresis, with increase of the solid urinary constituents, is brought about, and the stools are more abundant. The palpitation, œdema, and dyspnœa of valvular disease disappear. The diuresis is more marked than with any other member of the digitalis group. Oleander, like convallaria, differs from adonis in increasing peristalsis. It has no such action on the vessels as strophanthus, and may thus be given in atheroma. It differs from carpainum hydrochlorate, which

has only a momentary action, and which is to be recommended for subcutaneous injection. Oleander is indicated, both in the young and old, in **Cardiac** and **Renal Diseases,** with their concomitants, such as irregular and feeble pulse, palpitation, œdema, and dyspnœa. It may be used also in **Diseases of the Myocardium** and in **Atheroma.** It is contra-indicated if diarrhœa or vomiting be present.

The author recommends a concentrated infusion of the leaves, cortex, or fruit, each having a therapeutic action. Alcohol and glycerine may be added. The daily dose should be equivalent to 1 to 7 grains of the raw drug. The tincture is found to be more irritating to the alimentary canal than the infusion.

REFERENCES.—[1] Pelihon, "Comptes Rend.," 1866 ; [2] Pouloux, "Bull. Thérap.," May 15, 1888 ; [3] Schmiedeberg, "Arch. fur exp. Path. und Pharm." ; [4] Oefele, "Aerztl. Rundschau," Nos. 38 and 39, 1892.

OLEUM SUCCINI.

Dr. Wm. Murrell writes as follows : "Oil of amber is a good remedy long since out of fashion. It is obtained by the dry distillation of amber, and purified by subsequent rectification. The crude oil is a thick brown liquid having a strong empyreumatic odour and a hot taste, whilst the rectified oil is colourless or yellowish, and has a specific gravity varying from 880 to 990. It is a powerful local irritant, and has been used with success in the treatment of **Rheumatism, Lumbago,** and **Sciatica.** It enters into the composition of two old-fashioned remedies—Roche's embrocation and the Haarlem oil—and in many parts of the country seems to be highly valued as a remedy for **Whooping-Cough,** the directions being that it is to be well rubbed into the spine night and morning. A good liniment is made by mixing together equal parts of oil of amber, spirit of camphor, and spirit of hartshorn. The oleum succini seems to have found a footing in most of the Continental Pharmacopœias, and in America is extensively employed as a local application to the chest in cases of **Incipient Phthisis** and **Chronic Bronchitis.** It is given internally in doses of from 10 to 20 drops, either in the form of an emulsion or, better still, in capsules. It is useful in **Flatulent Dyspepsia** and in **Hysteria** accompanied by globus. Wood says that in **Hiccough** it is probably next to musk the most efficient remedy. It is not free from toxic properties, for a single dose of a tablespoonful gave rise to persistent vomiting and diarrhœa, with symptoms of collapse. The patient recovered, although she aborted. It is not likely that it will find much favour as an internal remedy, but as a local application its rubefacient effects will be found useful."

REFERENCE.—"Brit. Med. Journ.," April 1, 1893.

OREXIN.

This is a chloride of phenyldihydro-chinazolin. It was introduced by Dr. Penzoldt, of Erlangen, as a **Pure Stomachic**; but the evidence regarding it has been very conflicting.

A. Rizzi[1] reports that on healthy persons its use caused the appearance of a keen sense of hunger, and produced increase both of the secretory energy and of the peristaltic movements of the stomach. In cases of atonic dyspepsia, complicated or not with chlorosis or anæmia, the author obtained some striking results. He recommends that the drug be administered in the form of powder, enclosed in wafers, and that its ingestion should be immediately followed by a draught of water or broth, in order to prevent the drug from remaining confined to a small part of the stomach, and exercising too strong an irritant action there.

Paal states that the base of orexin, phenyldihydro-chinazolin ($C_{14}H_{12}N_2$), is almost free from taste, and Penzoldt and Frommel find that it acts as well as the raw drug. Frommel has employed the base in four cases of young women, troubled with severe **Vomiting in Pregnancy.** The three who had been pregnant before had suffered from the same malady in previous pregnancies. All these cases were relieved within a fortnight. Gessner, acting for Frommel, relieved a bad case of vomiting during the sixth month.

Penzoldt[2] says orexin has the power of restoring or increasing the secretion of hydrochloric acid by the stomach, and he therefore gives about 5 to 7 grains daily at 10 a.m. for periods of one to six days. Thus one dose often sufficed temporarily or permanently to restore an impaired appetite, the effect being probably due to this and other suggested physiological actions. In thirty-seven selected cases of severe **Anorexia**, fourteen being early instances of phthisis, the result was marked on twenty-seven occasions, two patients showing an almost insatiable hunger. The remaining subjects suffered from advanced disease of lungs or heart, etc., frequently aggravated by old age. Vomiting only occurred on three occasions. "Orexinbase" is given in doses of 5 grains, in a capsule, two or three times a day.

REFERENCES.—[1] Rizzi, "Gazz. Med., Lombarde," June 18, 1882; [2] Penzoldt, "Therap. Monatsh.," May, 1893.

ORGANIC EXTRACTS.

"A New Therapeutic Method, consisting in the use of Organic Liquids extracted from Glands and other Organs," is the title of a paper contributed by Prof. Brown-Séquard to a recent issue of the "British Medical Journal."

This new therapeutic method differs from others which have pre-

ceded it, in the fact that the chemical nature of the medicaments employed is unknown, and the theory of their administration is based upon an hypothesis which does not admit of proof.

The Physiological Laboratory of the College of France has become the manufactory for the production of the remedies connected with this new method, and the Medical Journals have published articles encouraging physicians to experiment with these remedies upon their patients.

If we forget for a moment the eminence of the veteran physiologist who has given the "New Method" an impetus which it would not otherwise have obtained, and we consider the reasons given for the use of these organic extracts, by Brown-Séquard himself, it becomes difficult to realize the contribution as one belonging to the present century.

We are recommended to treat *organic diseases of the liver* with "hepatic fluid," and the reasons given are as follows: "The well-known physiological facts relating to the production of sugar, and still more of glycogen, positively show already that that gland has an internal secretion. But has it any other, and especially does it give to the blood principles the absence of which, when the liver is considerably disorganised, produces serious and peculiar symptoms? There are very good reasons to think so, and it is most likely that in many cases of diffuse organic disease of the liver a number of the symptoms depend on the lack of the internal secretion. Unfortunately in mammals there is no conclusion to be drawn relating to that point when we take away the liver or only tie all its blood vessels. In frogs, however, experiments I made long ago, repeated lately by Dr. H. Roger, show that the taking away of the liver is a rapid cause of death after tonic or clonic convulsions. This clearly shows the importance of the internal secretion of the gland.

"Certainly it would be well to make use of the hepatic liquid in cases of extensive organic disease of the liver, whether it causes jaundice or not."

If such arguments are carried to their logical conclusion, it only becomes necessary for the treatment of organic disease to use an extract from the corresponding organ of an animal, employ it as an injection, and the cure is made. The professor has the courage of his convictions and the "method" consists in following out this hypothesis to the end.

Dr. Brown-Séquard states that he has injected "over and over again" liquids extracted from the thymus, the thyroid, the testicles, the brain, the liver, the kidney, the supra-renal capsule, the

pancreas, the spleen, the medulla of bone, the lymphatic glands, the spinal cord, the lungs, the heart, and other muscles, and also pieces of the digestive canal. The Materia Medica is therefore nearly complete, and the field open for the future investigator is limited. A sterilized and carefully filtered extract of bullock's teeth, as a cure for tooth-ache, remains to be added, and with as much to recommend it as the proposal to use injections of "renal liquid," to cure organic affections of the kidney and uræmia, as proposed by Prof. Brown-Séquard in the paper we are reviewing.

Dr. William A. Hammond recently contributed some articles on this "New Method of Therapeutics" to the "New York Medical Journal."

"Cardine," made from the freshly minced heart of the ox, may be taken as a type of the remedies, he recommends. The author gives an elaborate description of the way in which the heart is to be macerated, and adds: "Regard must be paid to the period of time during which maceration is continued. Thus action for a month or two produces a liquid which contains such a small amount of the essential principle that it is almost, if not entirely, inert. Maceration for six months results in a product the effects of which are perceptible, but of which the dose must be 15 or 20 minims, and even then the physiological and therapeutical influence is feeble. After eight months, however, the action is much more decided, and 5 minims hypodermically injected is a good average dose for an adult, some persons requiring a minim or two more, while with others a minim or two less suffices. I have arranged the dose after many experiments upon healthy men and women of average size, and have accordingly fixed upon 5 minims."

It is unnecessary to pursue the elaborate details respecting "the method of preparation, and physiological and therapeutical effects" of "cardine," "cerebrine," and remedies of the same type; their virtues will be fully set forth in the circulars of the "Pharmaceutical Chemist." But in this case a little difficulty has occurred, owing to the fact that the new remedies have been sold and advertised by the wrong chemist. We may explain to those of our readers who may not understand the reason for the fanciful names which have been given to the majority of new remedies during the past few years, that it is only possible to use the name of a drug as a "trade mark," and exact legal penalties against those who manufacture it, when this name is one which does not belong to it, but which is clearly an invention of the patentee. It is the custom of those who bewilder the profession with the production of new hypnotics, new antipyretics, and new organic extracts, to give a very elaborate description of the mode of manufacture, and of the

chemical decompositions (if possible) which take place during the process. We have been blamed by some of the pharmaceutical journals because we have given but a limited space to such accounts, which are not often intelligible to the practitioner, and are not always intended to be so. But before these accounts are written and published, the name of the new remedy has been registered as a "trade mark," and any one turning the description to practical account and manufacturing the remedy, would be made subject to legal proceedings on the part of the persons who have purchased the "trade mark" from the worker in the field of therapeutic science.

There has been always so good an understanding preserved between the pharmaceutical chemists on the one hand, and the therapeutists of the new school on the other, and the medical press has always observed so much complacency towards both, that it was most unfortunate, just as this "therapeutic method" had been written up to the proper point, and every practitioner had begun to feel that a set of organic extracts was an absolutely necessary portion of his armamentarium, that a well-known firm of chemists should have used the description published by Dr. Hammond in the "New York Medical Journal," to manufacture and supply the preparation. Of course the "trade mark" had been previously sold to another firm of chemists, and a very pretty quarrel has arisen in consequence.

It is very hard upon a therapeutic investigator that the unstinted praise which he has bestowed on his own carefully protected remedies, should be used to advertise the production of a firm who have not purchased the trade mark from him. But we must confess to being less concerned with the settlement of such quarrels than with the degradation of therapeutical science from which such difficulties arise.

The columns of our medical journals are filled with the reports of those who are introducing, and those who are experimenting with the latest hypnotic or the latest antipyretic, which are almost without exception, patent medicines. The means of advertising these commercial productions are so easy and so inexpensive, the profits are so large, that inducements are offered to enterprising persons, which tend to vitiate the sources from which the practitioner derives his information. But taking the best of these products, those that *do* reduce fever, or cause sleep with only a percentage of dangerous results, Are we to regard the physician who records so many cases of scarlatina or so many cases of sleeplessness, treated with this or that antipyretic or hypnotic, as advancing the science of therapeutics? Is there one of us who is prepared to assert that the use of antipyretics in continued fevers is of any benefit to the patient, or that it is the first duty of a

physician when consulted for insomnia to prescribe a hypnotic? We are all acquainted with the disastrous results of such agents. The yearning for palliatives, which will produce an effect recognizable by the patient, and of ready-made specifics which save the trouble of thought, has stimulated their production, until at last a stage has been reached when it must be hoped that the bottom has been touched.

To return to the organic extracts, from which we have wandered, Dr. Brown-Séquard, after mentioning that he has repeatedly injected organic extracts made from almost every organ in the body, tells us "that all the organic liquids have a useful tonic effect, some of them, however, in a much more marked manner than others." It is curious that no evidence has been brought forward to show that one organic extract differs in its effect from another; on the contrary, it does not appear to matter whether we use "testicular emulsion," "spermine," or Constantin Paul's "maceration of grey nervous matter," or any other organic extract; the effects are precisely the same.

There is a certain truth underlying this new method of therapeutics. The injection of an organic extract exercises a certain stimulating effect on the system, providing that the dose administered is small enough, but if the dose is increased it will produce a condition of fever not unlike that produced by septicæmia. It is easy to understand that the second condition is only a more intense form of the first. The introduction into the blood of organic matter is capable of producing a condition of fever and exhaustion such as we see in various forms of blood poisoning. Prof. Brown-Séquard's predecessor, in the Chair of Physiology at the College of France, told us long ago that "every substance which in large doses abolishes the property of an organic element stimulates it if given in small ones."

It appears probable that the stimulating effects of the organic extracts administered with great precaution, may be better accounted for by the UNIVERSAL LAW laid down by Claude Bernard, than by the particular hypothesis which Brown-Séquard asks us to accept.

REFERENCE.—"Brit. Med. Journ.," June 3, 1893.

PARALDEHYDE.

Dr. Wm. Mackie, of Elgin, says that "the fact that paraldehyde is a sedative largely eliminated by the breath led me to try its effect in the spasm of idiopathic asthma. I have now administered it in some dozen cases with uniformly successful results. It speedily relieves the spasm and induces sleep. Several of these cases had already been treated with all the known remedies, but every one of them pronounced the paraldehyde treatment the best they had ever tried.

"I have usually given it in ʒss doses, repeated every hour or half-hour

until the patient is relieved. In no case have more than three doses been required, and frequently only one was needed. In a boy aged thirteen, who had been asthmatic "from his birth," a dose of 20 minims was found to have a miraculous effect, mother and patient both declaring no drug had ever given such relief."

REFERENCE.—"Brit. Med. Journ."

PHENIC ACID.

J. Roussel is of opinion that this substance is best administered by combining it with eucalyptol. He begins the treatment of cases of **Phthisis, Anthrax, Pustules, Epithelioma,** and **Tubercular Lupus** by the use of eucalyptol alone for a period of two months, and then uses one of the following solutions by injection during two weeks: (1,) Eucalyptol, 10 parts; phenic acid, 10; vegetable oil, 100; (2,) Eucalyptol, 15 parts; phenic acid, 15; vegetable oil, 100; (3,) Eucalyptol, 20 parts; phenic acid, 20; vegetable oil, 100. The injections made with solutions containing 10 and 20 per cent. of phenic acid are painless, and produce no local effects. The dose of such solutions may be put down as 1 cubic centimètre. He recommends the injection to be made frequently.

REFERENCE.—"La Médecine Hypodermique," Aug., 1892.

PHENOCOLL (Hydrochloride).

Dr. Carl Beck strongly recommends this substance as an antiseptic. He has used the following preparations: (1,) Pure powder; (2,) 5 per cent. watery solution; (3,) 10 and 15 per cent. alcoholic solution; (4,) 10 and 20 per cent. gauze; (5,) 10 and 20 per cent. ointment. He records a number of cases of wounds and surgical operations in which it was employed with most satisfactory results. He found that by covering the wound with a 10 per cent. gauze, protected by sterilized moss, and changing the dressing every third day, rapid granulation took place without any irritation of the wound. "The healing process does not differ from that observed during the use of iodoform. Every patient's urine was examined repeatedly, without anything abnormal being detected, and no irritation took place. Two cases—viz., one amputation of three toes and one phlegmon of hand—had formerly been treated by iodoform and had extensive eczema, while phenocoll did not irritate at all.

"The 5 per cent. watery solution was successfully applied as a wet application in one case of **Dermatitis** and in one case of **Erysipelas** (arising from a lacerated wound on the anterior part of the leg). The same solution was used with apparent success in three cases of recent **Gonorrhœa** and four cases of **Leucorrhœa.**

"The 10 per cent. alcoholic solution was injected into the joints in two cases of coxitis and three cases of tubercular (?) inflammation of the ankle joint, without any irritation."

He considers that phenocoll hydrochloride is probably as valuable an antiseptic as iodoform, and stronger than dermatol, aristol, iodol, pyoktanin, europhen, etc.

Furthermore, it probably surpasses iodoform because: (1,) It is odorless; (2) It dissolves easily; (3,) It does not produce eczema; (4,) It is not contra-indicated in kidney disease; (5,) On account of its non-poisonous effects it can be applied to very extended surfaces.

REFERENCE.—"New York Med. Journ."

PHOSPHORUS.

Experiments by Dr. Bush, of Dorpat, show that turpentine has the effect of hindering the toxic effects of phosphorus. He further recommends the use of emetics and the washing out of the stomach.

Thornton,[1] as a result of a series of trials of the ordinary antidotes for phosphorous poisoning, concludes that permanganate of potash is the best antidote. It must be administered well diluted (0·5 or 1·0 per cent.), and before the poison has had time to become absorbed. With regard to sulphate of copper, this substance is to be avoided, for in every case a severe gastro-enteritis followed its use, the remedy being as fatal as the disorder for which it was given. Peroxide of hydrogen is too slow and too irritating to the digestive tract. With regard to oil of turpentine, it has been stated that phosphorus forms with it a crystalline mass, something like spermaceti. As, however, it is only the old French oil of turpentine which behaves in this way, and as this substance is almost unobtainable, it is useless to consider it as one of the practical antidotes for phosphorous poisoning.

Von Jakoch[2] found that phosphorus diminished the alkalinity of the blood, but there was no evidence of the destruction of blood corpuscles. He found an increase in the number of red corpuscles when the symptoms of poisoning were developed. [This is a primary effect, the secondary effect, when the use of the drug is long continued, is to cause diminution in number of red-blood corpuscles.—ED.]

Dr. Münzer believes that the increase of ammonia found in persons poisoned with phosphorus is caused by an abnormal production of acids in the organism. As to the condition of the blood, the decreased alkalescence of the blood may be explained in the destruction of red-blood cells, which is considered by most authors one of the results of phosphorous poisoning.

O. Taussig considers that there is no destruction of the red-blood cells in man following phosphorous poisoning, though there is a rapid destruction of them in hens. The cause of the abnormal acidity in man after phosphorous poisoning must be sought in the abnormal metabolism of the individual organic cells.

REFERENCES.—[1] "Therap. Gaz.," Jan., 1893; [2] "Deut. med. Woch.," Jan. 5, 1893.

PICHI-PICHI (Fabiana Imbricata).

Used as a liquid extract, this drug was found by M. Friedlander to be of much value in various disorders of the urinary system. He records cases of **Gonorrhœa, Cystitis, Nervous Irritability of the Bladder, Prostatitis,** etc., which were much benefited by the drug, taken in doses of 1 teaspoonful three times a day, with or without sugar. It is especially remarked that this medicament is not injurious to the stomach, but rather increases appetite. The plant is a native of South America, and much used by all classes there.

REFERENCE.—"Therap. Monatsh.," No. vii.

PISCIDIA ERYTHRINA.

Liegeois believes that the analgesic properties of piscidia erythrina exist in its alkaloid, piscidine. He considers this plant very useful during the menstrual period, and in cases in which there is **Dysmenorrhœa** with irregular menstrual flow. He advises 20 drops every three hours. After from 60 to 120 drops have been taken, the regularity of the function is usually established. In certain cases of dysmenorrhœa, the tincture of piscidia erythrina produces excellent results. He prescribed it as follows :—

℞ Liquor Ammonii Acetatis ʒj | Tincture of Piscidia Erythrina
Tincture of Valerian āā ʒij

Of this the dose is from 1 to 3 small teaspoonfuls.

Liegeois believes that in the præcordial pains of **Chlorosis** and the different neuroses, in **Myocarditis** with arterio-sclerosis, or, again, in subacute aortitis, this medicament may be advantageously employed. He prescribes under these circumstances 20 to 80 drops a day of the piscidia, continuing the treatment for upwards of a month. In his experience the drug proved itself a useful pain reliever in cases of hepatic pain; this has already been pointed out by Ott of Easton, Pa. The drug, according to this same investigator, raises arterial pressure very considerably.

The liquid extract is considered the best preparation. It may be used in doses of ♏xx to ʒij.

REFERENCES.—"Therap. Gazette, Sept.," 1892; "Revue Médicale de l'Est," April, 1892.

POTASSIUM (Bichromate of).

The "Therapeutic Gazette" (March, 1893) contains the following interesting account of this drug, the value of which does not appear to be as widely known as it should be :—

"In the "Brooklyn Medical Journal," Dr. J. H. Hunt contributes an article upon the treatment of bronchitis and other conditions in which expectorants are needed by the administration of bichromate of potassium. He recalls the fact that seventeen years ago Dr. Hutchins recommended to him the employment of 1 grain of bichromate of potassium triturated with 9 grains of sugar of milk and mixed with 20 teaspoonfuls of water, as a remedy for severe suffocative bronchitis occurring in young children. So extraordinary were the results produced that Dr. Hunt has constantly employed the drug since 1875. He states that the only article of importance which he has been able to find concerning it was one by Dr. Drysdale, of Cannes, France.

"Dr. Drysdale believes that the bichromate of potassium has a specific action or elective affinity for certain organs and tissues, and that its action is most marked on the mucous membranes of the respiratory passages, nose, eyes, and mouth, and on that of the stomach and intestines ; on the skin, liver, and kidneys, the fibrous tissues, periosteum, and bone.

"Hunt's experience with the drug has been confined to diseases of the respiratory mucous tract. According to this author, it is best administered in a freshly-prepared solution. The physician may readily carry it in the form of a triturate, which is readily dissolved in water at the bedside ; or tablet triturates containing $\frac{1}{50}$ of a grain may be used. These triturates contain the minimum dose for a child one year old. Hunt claims that the bichromate of potassium is readily borne by the youngest infant, but that it should not be given within a few minutes of feeding with milk. To a child one year old, he gives as much as $\frac{1}{20}$ of a grain to the dose, if oppression and suffocation are impending, and then diminished at one-hour intervals. Drysdale says that no more than $\frac{1}{4}$ grain should be given per day, but Hunt claims to have exceeded that amount without bad effects, instructing the attendants to diminish the dose if it acts like an emetic, but not to diminish the frequency of its administration. When it is rejected by the stomach, it is without nausea or after-irritating effect. Dr. Hunt gives 10 grains of the powdered triturate, or a corresponding number of $\frac{1}{50}$-grain tablets, to be dissolved in 20 teaspoonfuls of water, with the best effect. This is probably due to the minute subdivision of the drug through trituration.

"Not only in bronchitis, but also in coryza or influenza, or when the child 'catches cold,' is the bichromate of potassium to be given."

The most complete account of the action of bichromate of potash is the article contributed to the "Materia Medica, Physiological and Applied," by the late Dr. Drysdale, of Liverpool. No less than one hundred and forty-two pages are devoted to a description of its toxic and therapeutic action.

From observations made upon workmen engaged in the manufacture of the salt, it is obvious that it acts as a pure tissue irritant; differing from arsenic in the fact that it has little influence upon the blood and nervous system, its action is confined more to the skin and mucous membranes exposed to its influence.

Its action upon the respiratory mucous membrane is to increase the quantity of the secretion, and this generally is of a tough and stringy consistence. When the inflammation is severe, false membranes are actually formed. Healthy persons exposed to the influence of the drug have suffered from coated tongue, with vomiting, heartburn, and sore throat, etc.

In animals poisoned by it, both the liver and kidneys were found congested and enlarged; while in healthy persons exposed to its influence scanty clay-coloured stools were frequently observed.

The periosteum and fibrous tissues are also specifically affected by the drug, and pain and hard swellings appear at different spots. But its action on fibrous tissue appears to be peculiarly marked as regards the nasal system. The workers in chrome constantly complain of the following symptoms (described by Dr. Drysdale): "For the first few days, there is a discharge of clear water from the nose, with sneezing, chiefly on going into the open air; then soreness and redness of the nose, with sensations of fœted smell. Next, great pain and tenderness at the junction of the cartilage, and the septum ulcerates quite through, while the nose becomes obstructed by the repeated formation of hard elastic plugs (called by the workmen "clinkers"). Finally, the membrane becomes dry, and loses its sensibility for years."

We have had considerable experience of the use of this drug, and we are very certain that if Dr. J. H. Hunt's recommendation is followed, and it is used as an "expectorant," possibly to take the place of ipecacuanha or squills, that disappointment will follow in many cases; whereas if it is employed only when the conditions presented are those which correspond with the specific influence of the drug, it will achieve results which could not be obtained as rapidly or so surely by any other drug.

In one case, where a delicate child was brought to us with a

circular ulcer of the septum nares which had existed for over twelve months, and which had resisted both local treatment and general remedies, a most rapid cure of the ulcer, as well as improvement of the general health, was effected by the internal use of this salt in minute doses. As it has the power of specifically inflaming the septum, it would not have been wise to use large doses, its stimulant and not its irritant effect being needed. The same argument applies to the conditions for which it is recommended in the paper referred to. Its therapeutical effects would be diminished by increasing the dose recommended by the author, and it will be found sometimes necessary to still further diminish them to obtain the therapeutical result.

In our own practice, we have found it of most value when irritation of the respiratory mucous membrane is either secondary to, or is accompanied by, gastric disturbance, and even then we should not use it in cases where the secretion was abundant, but rather when the mucus was tenacious and difficult to expel.

There is a form of chronic pharyngeal catarrh, where the patient has a fit of coughing on waking in the morning, and, sometimes only, expels a piece of tough mucus resembling a grain of wheat, which at once gives relief to the cough. In such cases, bichromate of potassium is a most valuable remedy.

In chronic gastric catarrh, with yellow coated tongue, and local tenderness over the epigastrium, it is one of the most valuable of remedies, and many cases closely resembling gastric ulcer have cleared up under its use.

As a cheap and efficient stimulating lotion for chronic ulcers, it deserves to be better known. Gr. j to ℥iv is a suitable strength. A stronger solution, applied as a paint to the tongue, is almost a specific for **Psoriasis** of that organ, and for ulceration of a syphilitic character.

As bichromate of potassium undergoes chemical change by the action of light, its solutions should be kept in coloured bottles.

A trituration of 1 to 100 of milk sugar will be found the most convenient form for dispensing.

POTASSIUM (Chlorate of).

Attention has been drawn by Dr. Alexander Harkin to the influence of this salt in increasing the secretion of milk. He administers a concentrated solution (1—2) in doses of 1 ounce three times a day before meals, and claims that such doses are not dangerous to either mother or child. Within twenty-four hours there is noticed an increase in volume of the mammary glands, this resulting in a marked

increase of the secretion of milk, with a corresponding amelioration in the health of both mother and child.

The same results were obtained in the cow, in a series of experiments. As in the case of the human being, the secretion of milk ceases in the cow after a certain period, and it has been found that by stimulating the lacteal secretion not only the health of the cow is enhanced, but also the growth of the calf. This stimulation has similarly been brought about by the administration of the chlorate of potassium. In these animals the drug proved also to be non-poisonous. The author relates the instance of a cow that, following an attack of puerperal fever, ceased to furnish milk, and in which the administration of the chlorate of potassium not only destroyed the fever, but also caused the re-establishment of the secretion of milk, and thus the calf was saved. Experiments were carried on with eight cows. The animals were fed, during four days, according to the following method: At 6.30 A.M., 12·700 kilogrammes of roots and 7 pounds of brewery grain; at 7.30 A.M. 10 pounds of hay; at 12 N., water; at 12.30 P.M.. 6 kilogrammes of roots and 7 pounds of cotton seed; at 5.30 P.M., same as in the morning; and at 8.30 P.M., 10 pounds of hay. On the fifth day, and during the following twelve days, each cow received, besides the usual nourishment, 7 grammes of the chlorate of potassium three times a day. According to the detailed table given in the original, it is seen that the secretion of milk was considerably increased. The ages of the cows ranged from two and a half to five years.

In reference to the strength of the solution said to be used by Dr. Harkin, it is as well to note that the solubility of the chlorate of potassium is 20 grains to the ounce.

REFERENCE.—"Bull. Gén. de Therap.," Dec. 30, 1892.

QUININE (Chlorhydro-Sulphate of).

The advantage of this salt consists in the fact that it is soluble in its own weight of water, and it is therefore very suitable for hypodermic injection, and is said to be absorbed very rapidly. It contains no less than 74·2 per cent. of the alkaloid, and is therefore to be preferred to the sulphate or the chlorhydrate.

REFERENCE.—"La Tribune Médicale," Feb. 16, 1893.

RESORCINOL.

This is obtained by heating equal parts of resorcin and iodoform. The resultant compound is amorphous, of a yellowish-brown colour, and has an "iodinic odour." Dr. Bielaiew, its introducer, claims to have successfully employed it in ulcers and unhealthy sores of all sorts.

Being very active, it must not be used in a pure state except in atonic or gangrenous conditions. The pharmaceutical preparations for ordinary employment are formulated as follows :—

℞ Resorcinol 1 gramme | Starch 4 grammes

Sig.—Use as a dry powder.

An ointment is made with :—

℞ Resorcinol 2—4 grammes | Lard 30 grammes

Vaselin does not make a good mixture with this substance.

REFERENCE.—"Bull. of Pharmacy."

SALOPHEN.

This drug was described in our last issue (p. 46). Dr. Drasche[1] refers to the crystalline deposit which appears on the skin after perspiration, in patients taking the drug.

Hitschmann[2] relates his trials with the remedy in **Acute Rheumatism.** He states that the temperature steadily fell, and the pain usually disappeared in from three to four days, at which time only stiffness remained. The treatment did not prevent the involvement of new joints, or the occurrence of heart complications or relapses. It gave good results in one case where other salicylate preparations had failed, and in another where they could not be tolerated. The only abnormal symptom noted was slowing of the pulse, but there was no fall in the blood pressure, no dyspnœa, and no digestive disturbance. The author also used the drug as an analgesic with good results. The amount of sweating varied.

Caminer[3] has used this drug in gramme doses in cases of cephalalgia, neuralgia, and migraine. In two cases of **Supraorbital Neuralgia** it was efficient. If used in the early stages of migraine it aborts the attacks, but it has no influence on their frequency. In two cases of acute rheumatism the author used the drug with good results, and there was no relapse.

REFERENCES.—[1]"Wiener med. Woch.," No. 29, 1892; [2]"Wien. klin. Woch.," No. 49, 1892; [3]"Therap. Monats.," Oct., 1892; "Brit. Med. Journ.," Dec. 3, 1892.

SCOPOLAMINE (Hydrochlorate).

This is an alkaloid obtained from the roots of scopolia atropoïdes. Raehlmann[1] "has made use of scopolamine both on the normal and the diseased eye, and reached the conclusion that, as a mydriatic and an antiphlogistic, it surpasses all other tropeines, including atropine. In strength of mydriatic effect it resembles hyoscine closely. The remedy does not produce the disagreeable after-effects and double vision which, according to his experience, occurred from the use of

hyoscine, but it possesses all the advantages which belong to hyoscine in comparison with atropine.

"During the last half-year he has employed the remedy in all cases in which atropine may be used, and has also used it by way of comparison with atropine, and has found that scopolamine is in many cases at least equal to atropine, while in others it is entirely superior. But the circumstance which will insure scopolamine an enduring place among ophthalmic remedies is that it can be used for a long time in one of the solutions equivalent to the 1 per cent. atropine solution without producing the troublesome associated symptoms which so often make the continued use of atropine impossible. It is well known that atropine disturbs the appetite when used as an instillation for any length of time, either in moderate or large doses. He has never seen this or any similar effect from the use of scopolamine. It is only after very large doses of scopolamine that a feeling of dryness of the throat is produced, a symptom which occurs after very moderate doses of atropine. The state of nervous restlessness, with or without a reddening of the face and quick pulse, which is so often found in patients treated with atropine, never occurs after the use of scopolamine. In cases of incipient atropine poisoning, or in idiosyncrasy towards atropine, scopolamine, therefore, renders the best service, since it more than supplants atropine in its local effect and completely destroys its general effects.

"In several cases of **Iritis**, in **Episcleritis** with infiltration of the sclerotic, etc., when atropine could not be endured any longer, when the powers of the body were depressed on account of want of appetite, and the general condition was as unfavourable as possible, scopolamine not only produced an improvement in the disease of the eye, but it also maintained the general health. The remedy surpasses atropine in influencing pericorneal injection and pannus, and possesses especial advantages in suppurative inflammations of the anterior section of the eyeball. As is known, under these circumstances, especially in suppurative keratitis, serpent ulcer, and irido-cyclitis, atropine often is inadvisable, while Raehlmann has found in five cases that scopolamine caused a diminution in the size of an hypopyon. The remedy seems to act more favourably than atropine on the suppurating tissues, probably by an effect on the blood-vessels. Scopolamine does not seem to act on the intraocular pressure; even if there is a pathological increase of the tension, the remedy can be borne. Therefore it is an indispensable drug in inflammatory conditions, especially in iritis, when they occur in glaucomatous eyes. He has used scopolamine with advantage in several cases of chronic inflammation with secondary

glaucoma. In one case of absolute glaucoma, with great irritation, strong ciliary injection, and hyphæmia, the pain ceased, the eye became quiet, and the blood from the anterior chamber disappeared under the influence of this drug. He has not tried scopolamine in acute glaucoma.

"Hydrochlorate of scopolamine operates about five times as powerfully as atropine. It paralyzes, like the latter and in the same degree, the sphincter of the iris and the accommodation. The duration of the effect is ($\frac{1}{5}$ per cent. scopolamine compared with 1 per cent. atropine) about the same; perhaps somewhat shorter with scopolamine than with atropine. It is to be used in solutions of 1 to 2 *pro mille* ($\frac{1}{10}$ to $\frac{1}{5}$ per cent.), which solutions accordingly correspond in dose to $\frac{1}{2}$ and 1 per cent. solutions of atropine. Scopolamine operates best when used in divided doses. In a solution of two *pro mille* ($\frac{1}{5}$ per cent.) 6 or 7 drops may be administered daily to an adult, or used every fifteen minutes during one and one-half hours. With children correspondingly weaker solutions are to be used."

REFERENCES.—"Klin. Monatsbl. f. Augen.," Feb., 1893; "Therap. Gaz.," April, 1893.

SOYA BEANS.

Dr. Wm. Hale White recommends the biscuits manufactured from this bean as a valuable variation in the food of diabetic patients.

Dr. Saundby, in his "Lectures on Diabetes," gives the following analysis of the various preparations:—

	Soya Bread.	Soya Biscuits.	Soya Flour.
Moisture	44·1	8·8	10·6
Fatty Matter	4·2	17·1	4·6
Mineral Matter	3·4	5·0	5·7
Carbohydrates	23·3	46·1	45·6
Nitrogenous Matter	25·0	23·0	33·5
	100·0	100·0	100·0

Prof. Dujardin-Beaumetz thinks that the soya bean bread, which, according to him, contains less than 3 per cent. of starch or sugar, is superior to gluten bread; for he finds that the best varieties of this contain at least 16 per cent. of starch and saccharine substances.

At Guy's Hospital the usual diabetic diet consists of gluten bread 6 oz., two eggs, butter 2 oz., two almond biscuits, milk 1 fl.oz., cooked meat 12 oz., greens, watercress, tea, and soda-water.

Twenty-three soya biscuits weigh 6 oz., and, therefore, when the

biscuits are given instead of gluten bread, each patient was allowed, by Dr. Hale White, this number every day.

The results of treatment were favourable, perhaps more so than when gluten bread was used. No diarrhœa or other ill effects followed their use.

REFERENCE.—"Pract.," May, 1893.

TASI (or TASIS).

The fruit, leaves, and root of this plant *(Morrenia Brachystephana)* are used for increasing the secretion of milk. E. del Arca and J. Sicardi report that among fifteen women, from twenty to forty years of age (three primiparæ and the rest multiparæ), suffering from insufficiency or total want of milk, tasi gave satisfactory results in eleven ; in two the effect was doubtful, and in two *nil.* The length of time that had elapsed after delivery did not appear to have any effect on the rapidity with which the secretion of milk was restored.

30 grammes of tasi root are infused in 200 grammes of water ; this amount may be taken in tablespoonfuls in the course of the twenty-four hours. A decoction of 40 grammes of the fruit in 20 grammes of water can be taken in the same way. The preparation is nauseous when swallowed, and leaves behind a disagreeable, bitter taste.

REFERENCE.—"Siglo Med.," March 5, 1893.

TESTICULAR EMULSION. (See also "Organic Extracts.")

We have given an account of the physiological effects following the use of Brown-Séquard's fluid, and also of Spermine, in the "Annual" for 1892, p. 71, and in our last issue (p. 50) we gave the directions for the use of the fluid, communicated by Prof. Brown-Séquard.

In a recent paper,[1] the veteran physiologist has given an account of the manner in which the testicular emulsion is prepared :—

"We procure testicles of bulls at the slaughter-house. Just after the killing of the animal, a ligature is placed as high as possible on the whole mass of the spermatic cord, so as to get at least a certain amount of the blood contained in the veins. When the organs reach the laboratory, their coverings are at once cut away with scissors sterilized by heat. The organs are then washed in Van Swieten's liquor, and afterwards in recently boiled water. That being done, each of the testicles is cut in four or five slices, which, with the piece of cord, are placed in a glass vase, in which is thrown, for each kilogramme of the organs used, one litre of glycerine marking 30°. The vase is covered, but it is essential, during the next twenty-four hours, to turn over a good many times the slices and other pieces of organs. At the end of that period, an addition of 500 cubic centi-

mètres of freshly boiled water, containing 25 grammes of pure chloride of sodium, is made. The liquid so obtained is then made to pass through a paper filter (we use the syrup grey filter No. 8 of the Laurent series). Before doing this, however, we hardly need to say that the paper filter and the glass funnel in which it is placed must be thoroughly washed with boiling water. The filtered liquid is slightly rose-coloured. To hasten the filtration, it is well to raise the temperature of the glycerine solution to 40° C. (104° F.); the viscosity is thereby suppressed."

Prof. Brown-Séquard describes a very elaborate apparatus designed by his assistant, Dr. d'Arsonval, to sterilize and filter the organic extract.

The claims put forward by the author for the therapeutic effects of this fluid are rather extensive. He says that "in more than one hundred thousand injections the procedure has only on two occasions been followed by rise of temperature; hardly any pain has been complained of, and no symptoms of septic infection have been observed. In one hundred and twenty cases of ataxy in which the method has been used there have been only two instances of failure. In four cases of cancer improvement has taken place, discharge being diminished, pain ceasing, bleeding being checked, œdema disappearing, and the tumour seeming to shrink. In cases of uterine fibromata, the tumour has always been reduced in size. Of seven cases of paralysis agitans, two have been improved, one of them being almost cured. In all the cases of lateral sclerosis in which it has been tried, the method has given good results. In tuberculosis it has been very successful; diabetes has also been favourably influenced, and one case has been cured. The preparation, as prepared by d'Arsonval, is now of the strength of 1 in 2·5 instead of 1 in 5, as it used to be. An equal weight of water should be added to it before use; this prevents the injections causing pain."

Prof. Dujardin-Beaumetz, who has made extensive trials of the testicular emulsion, is unwilling to affirm that any cases of sclerosis of the brain and spinal cord were cured. It is well known that hysteria furnishes instances of pseudo-ataxia and pseudo-sclerosis.

It may be, with still greater reason, maintained that the pretended cures of cancer by the injections of organic liquid are cases of mistaken diagnosis. What can, however, be affirmed is, that in certain cases of marasmus at advanced periods of cachectic disease, cancer, cholera, etc., tonic effects, amounting to a remarkable amelioration, have been obtained.

In neurasthenia and nervous prostration from overwork, and in

hysteria, injections of these animal extracts have given especially gratifying results.

REFERENCE.—[1] "Brit. Med. Journ.," Dec. 3, 1892.

TEUCRIN.

This is a fluid extract of a plant called *Teucrium Scordium*, belonging to the *Labiatæ*. It has been extensively employed by Prof. von Mosetig Moorhof during the last five years on some three hundred patients or more in the treatment of cold **Abscess, Lymphadenitis, Lupus Vulgaris,** and **Actinomycosis.** The *rationale* of the method consists in the production of active local hyperæmia, by which means the normal cells are rendered better able to resist the influence of the tubercle bacilli and other pathogenetic agencies. In the cold abscess the lining membrane containing the tubercular elements is completely cast off, and if the cavity is opened (preferably on the third day after injection) it heals like a simple phlegmonous lesion; if left to itself it gradually shrinks and dries up more or less. Besides these local effects, teucrin produces an "aseptic" fever of ten or twelve hours' duration, the temperature rising to 101° F., or even to 104° F., but generally without other signs of a serious disturbance. The dose is 3 ccm. of the fluid extract to be injected, under due precautions, deep into the subcutaneous tissues in the vicinity of the diseased parts. One injection is generally sufficient. The preparation may be obtained ready for use from Herr Apotheker Emil Freidrick, in Vienna, Porcellan Gasse 5.

In general the method does not appear to have found much favour with other surgeons, but Kindner[1] mentions, albeit with much reserve, a case of inoperable sarcoma of the face very favourably influenced by repeated injections, and Mosetig[2] himself publishes further successful observations.

REFERENCES.—[1] "Berlin klin. Woch.," No. 29; [2] "Wien. Med. Presse," No. 6, 1893.

THIOSYNAMIN.

This is a crystalline product, soluble in alcohol and ether. It has been used by Prof. Unna,[1] and others, as an injection into tubercular areas, in the same manner as a resolvent of cicatricial contractions, and for the treatment of chronic enlargement of the lymphatic glands. If this agent accomplishes a small part of the results claimed for it, it will form a most valuable addition to the materia medica. For in addition to the direct specific resolvent action upon **Local Tuberculosis,** it is also asserted that it produces a marked increase in diaphoresis and diuresis; a resolvent influence upon scar-tissue far more powerful

than that of any of the remedies already known ; a powerful tonic effect upon the system at large.

Upon scar-tissue, particularly that causing deformity and disability by contracture, the results of the injection were extraordinary. The scar softened, yielded, and in a number of cases function was entirely restored. Thus, in one instance, where the fingers were drawn tightly into the palms of the hands, these injections enabled the patient to resume work. In another case, where the knee was flexed and useless from cicatricial contractions, the injections enabled the leg to be brought almost entirely straight. Other equally striking cases are reported.

Upon chronic enlargement of lymphatic glands the results of injection were equally satisfactory. Some cases of corneal opacity of long standing were also cured by these injections, and they seemed always to enormously increase the absorbing functions of the lymphatics. Finally, the injections increased the appetite and enabled the patients to take on fat.

Latzko[2] has tried thiosynamin in forty gynæcological cases (large tumours of the uterine appendages, slight perimetric and salpingitic inflammations, displacements of the uterus) and has found it to have a softening action on cicatrices. In uterine retroflexion all troubles disappeared after a short time of treatment with thiosynamin. The patients, almost all of whom belonged to the working class, were able to resume their usual work, and the large growths became smaller.

This drug is used in the form of a 15 per cent. alcoholic solution. This is filtered in order to free it from all mechanical mixture, and two injections a week are made of 2 to 4 drops of this mixture. Injections of this strength produce no more constitutional effect than would so much water. The rule to be observed in administering this medicine is that the more extensive the diseased area the smaller the dose. When there is but a moderate amount of diseased tissue the minimum dose should be given first, and the quantity should be gradually increased. The largest dose given was about 30 minims. Stopping the treatment for two or three weeks after local reaction was no longer excited, and again beginning it, local reaction was as marked as though the remedy had not previously been administered. The injections are usually administered into the muscular tissue between the shoulders.

REFERENCES.—[1] "Monatshefte für Praktische Dermatologie," Bd. xv., No. 7 ; [2] "Intern. klin. Rundsch.," Feb. 1893 ; "Therap. Gaz.," Feb., 1893.

THYMACETIN.

The action of this drug has been carefully investigated by E. Marandon de Montyel, and the following are the conclusions reached by him :—

(1,) It does not exercise an action on sleep, the intellect, the vaso-motor system, the genital organs, the secretions, or the intestines.

(2,) It, without influencing any of the other reflexes, produces in a few instances a marked double dilatation of the pupil, but without disturbances of vision, the symptom appearing during the first hour, and lasting from thirty to forty minutes.

(3,) It sometimes produces, immediately after its administration, but only for a short time, however, dizziness, associated with a slight degree of intoxication.

(4,) In three-fourths of the cases, it causes a slight headache, this lasting several hours, appearing usually at bedtime, and, rarely, next morning on awakening.

(5,) It always increases, for about two hours, muscular force, as measured by the dynamometer.

(6,) It increases the bodily temperature to about one degree, the elevation. like the decline of the same, occurring gradually, returning to the normal point in about two hours.

(7,) During a period of two hours, the number of inspirations increase without modifying their rhythm.

(8,) Also a rise of the arterial pressure, and an increase in the number of pulsations, but without producing cardiac palpitations.

(9,) Thymacetin, in two-thirds of the cases, causes towards the afternoon great lassitude, which often persists till the following day, even after waking ; but there are no concomitant physiological or psychological disturbances produced.

(10,) It modifies micturition in three ways : (*a*,) It accelerates or delays the desire of urinating ; (*b*,) It causes a urethro-vesicle spasm, a momentary retention, and dysuria, but these disturbances soon disappear ; (*c*,) Occasionally during the passage of urine a scalding sensation is felt, which also soon disappears ; these occur singly or in combination.

(11,) Exceptionally before micturition, it produces shooting urethral pains.

(12), In two-thirds of the cases, it causes a bitter taste, accompanied with a sore mouth and a coated tongue, but no special odour of the breath.

(13,) In most individuals thymacetin produces, during an hour or

more, a burning gastric pain, more often localized, but sometimes felt all over the body; rarely, a scalding sensation is felt along the œsophagus.

(14,) Thymacetin is capable of producing a marked thirst, anorexia, and also gastric disturbances, which disappear on the suspension of the drug.

(15,) In a general way, the organs become rapidly accustomed to the action of thymacetin, especially the bladder and the urethra; the stomach, however, is the only organ to become more and more susceptible to the influence of the remedy.

(16,) All the preceding physiological actions are produced by small doses of thymacetin; still, the sensations of dizziness, the temperature, digestion, and micturition are influenced in direct proportion to the amount of the drug ingested.

(17,) Of all nervous disorders, general paralysis is the least susceptible to the action of thymacetin; in such cases, dilatation of the pupil, or dizziness, was never observed, and in them urethro-vesical spasm was less frequent and less marked than in cases of insanity; on the other hand, in paralytics the spasm occurred more frequently than in epileptics.

REFERENCE.—"Therap. Gaz.," May, 1893.

THYROID EXTRACT.

The following precise directions for preparing thyroid extract appeared in the "Pharmaceutical Journal":—

"To obtain the glands, it is best to go to the slaughter-house when sheep are being killed. Take a scalpel, pair of forceps, and a stoppered bottle, all of which must be thoroughly cleansed and rinsed with 5 per cent. aqueous solution of carbolic acid. As soon as the sheep is dead, have the skin removed from the neck, and, with the animal lying on its back, make a median incision, extending from beneath the chin nearly to the breast, so as to expose the trachea. The thyroid consists of two lobes, situated in the upper part of the neck, one on each side of the trachea, and connected by a narrow bridge or isthmus. This isthmus is about one-eighth of an inch broad, and is seen running across the trachea just below the larynx, on about the third or fourth cartilage-ring. It is reddish in colour, but sometimes very pale. Tracing it round on either side of the trachea, the two lobes are easily found. Each lobe is from one to one and a half inches long, about three-fourths of an inch broad, shaped like an almond, and of firm and compact texture. The colour is dark red. Remove the lobe by means of the forceps and scalpel as free as possible from the surrounding connective tissue, and transfer them at once to the bottle.

"To prepare the extract, cut up the glands into transverse slices on a clean glass or earthenware plate, which has been rinsed in 5 per cent. carbolic acid solution. All the utensils employed in the subsequent operations must be rinsed in the same fluid. Place the sliced glands in a mortar with some ordinary glass tubing—about two inches to each pair of glands will be found sufficient. Grind the whole up together until the glands are thoroughly disintegrated; then add a mixture of equal parts of glycerin and water, in the proportion of 1 fluid drachm to each pair of glands. The mixture of glycerin and water must be first sterilized by boiling for a few minutes, and then cooled. After well triturating, transfer the contents of the mortar to a stoppered bottle or jar, add a small piece of thymol, and macerate for twenty-four hours. At the expiration of this period, squeeze out the fluid through a piece of muslin, by means of the fingers (previously dipped into 6 per cent. carbolic acid solution), and filter through a double layer of paper under pressure. The paper may be sterilized by immersion in boiling water. Under a pressure, equal to about 15 inches of mercury, a nearly clear filtrate of a pale-red colour is obtained, measuring about the same volume as the fluid added to the glands, since the glands themselves exude fluid when pounded in the mortar, and by filtering under pressure very little fluid is lost in the residue remaining on the filter.

"If access cannot be had to a pressure-filter, one must be content with pouring off the supernatant fluid after the twenty-four hours' maceration, because filtration, under ordinary conditions, proceeds too slowly. In this case much less extract is obtained, but this defect can be partly remedied by using double the quantity of glycerin and water."

TOLYPYRIN.

This substance has recently been investigated by Guttmann, of Berlin, who finds that in the nature and strength of its action it is similar to antipyrin, and can be used therefore under the same circumstances, while the cost is said to be less. Like the older remedy, it is a synthetic product, and differs from it in having one atom of H of the phenyl group (C_6H_5) displaced by the equivalent methyl (CH_3). It forms colourless crystals, possesses a very bitter taste, and is soluble in ten parts of water. As a fever-reducing agent, its general effect may be stated as follows: 60 grains of tolypyrin, in single doses of 1 grain given at hourly intervals, lower the body temperature at least 1½° C. (2½° F.), and at most 3·6° F., or thereabouts; sometimes, however, there was a fall of nearly 5° F. The lowest point is usually reached five to six hours after administration, and with the above dose

the fall lasts twelve to eighteen hours. It is accompanied by sweating. The extent and duration of the fall of temperature is as great as with antipyrin, but with this difference, that it takes 75 to 90 grains of the latter to produce the same result as 60 grains of tolypyrin. It has a favourable action upon acute rheumatism. In fresh cases of moderate severity 60 grains daily afford relief, the pains and swelling disappearing. In graver cases, and where the disease is intractable, it proves itself as useful as antipyrin or salicylic acid. It is found to be well borne, and may be given up to 90 grains daily. An obstinate case of sciatica had in thirty-eight days 4½ ounces without unpleasant after-effects. For relief of pain it was found effective, **Headaches** being relieved as by antipyrin. On the whole, it is quite as active as the latter substance, and has the further advantage of being cheaper.

REFERENCE.—"Berlin. klin. Woch.," No. 11, 1893.

TROPACOCAINE.

Hugenschmidt[1] has tried this drug as a **Local Anæsthetic.** The results have been in every way satisfactory, 10 drops of a 4 per cent. solution, injected hypodermically, being sufficient to produce complete anæsthesia without any unpleasant consequences. Such a solution possesses the advantage over a similar one of cocaine in being practically non-toxic, and also sufficiently antiseptic to prevent the growth in it of moulds, etc.

Seifert[2] has used a solution of tropacocaine as an anæsthetic in laryngeal and nasal surgery. He finds that to secure complete freedom from pain it is necessary to employ stronger solutions than are necessary in the case of cocaine. He finds also that intense hæmorrhage is apt to follow the use of tropacocaine in this manner, rendering it necessary to take special precautions for its arrest.

REFERENCES.—[1] "Sem. Méd.," No. 6, 1893; [2] "Internat. klin. Rundschau," No. 8, 1893.

Part II.—NEW TREATMENT.

A Dictionary of New Treatment in Medicine and Surgery, 1894.

ABDOMINAL SURGERY. *A. W. Mayo Robson, F.R.C.S.*

Although a review of the work done in abdominal surgery during the past year shows nothing startling in the way of novelty, there has been distinct progress both in following out new ideas as well as in the improvement and modification of older methods.

Antiseptics.—Antiseptic or aseptic methods are now practically universally adopted in abdominal as in other surgical work, but it is generally recognized that there is greater safety in avoiding the use of strong antiseptics inside the abdominal cavity, and for lavage, plain boiled water, or normal saline solution, or at most a weak solution of salicylic acid or boric acid are the solutions usually employed.

Iodoform in Abdominal Operations.—Mr. F. Treves,[1] basing his practice on the theory that iodoform, though probably not acting as a germicide, induces chemical changes in the toxic products of bacterial fermentation, advocates the very free use of iodoform in abdominal surgery, illustrating his remarks by several critical cases. We can fully endorse Mr. Treves's good opinion of the use of the drug, both in tubercular cases and in cases complicated with septic sinuses, as in fæcal fistula and similar examples, where it is difficult to absolutely purify the parts, and where the peritoneum is apt to become infected, despite every precaution.

Drainage.—The drainage tube is less favoured than formerly, and is replaced in many cases by greater care in detail, as in arresting hæmorrhage and in avoiding septic contamination, but in septic cases free drainage is still, and is likely to be, the sheet anchor. Kelly[2] says that whereas five years ago he drained 80 per cent. of his cases, he now drains only 10 to 15 per cent., and he prefers a long, narrow gauze bag containing several strands of gauze instead of the glass tube, using large quantities of gauze for packing in septic cases.

Suture after Laparotomy.—In view of the not infrequent occurrence of hernia after laparotomy, greater attention has of late been paid to careful suture of the wound after abdominal section. Since we have

adopted the principle of suturing each layer separately, insisting on three or four weeks' recumbency, and on the wearing of a suitable pad and belt for several months subsequently, we have been quite satisfied with the results. We usually suture the peritoneum with a continuous catgut suture, the muscles and aponeurosis with interrupted chromic gut or silk sutures, and the skin with a few (often only three) silk worm gut stitches, the last taking a wide group of tissues, and exerting only just enough tension to bring together the skin margins.

Howitz,[3] of Copenhagen, makes the incision about two-thirds of an inch from the middle line through the substance of the rectus, and employs the twisted suture, as in harelip, employing silk worm gut.

After Treatment.—The after treatment of laparotomy is quite as important as the operation itself, and undoubtedly to Mr. Lawson Tait[4] belongs the credit of advocating and demonstrating what may be termed natural drainage by way of the alimentary canal by means of purgation in all cases of distension after operation, whether due to peritonitis or not.

After aseptic operation I find the usual course to be an uncomplicated recovery without distension, but should there be persistent vomiting with quick pulse and distended epigastrium, I take these as danger signals and at once order a large turpentine enema, stop all food by the mouth, and give 5 gr. of calomel, to be followed by a saline purge, and as a rule I find that the passage of flatus or, better still, the action of the bowels, is followed by relief. Morphia is seldom necessary and should always be avoided, if possible, as it tends to paralyze the bowels, and favours the retention of flatus.

Shock after Operation.—After prolonged operations such as have frequently to be performed in the abdomen, shock not infrequently follows and may end fatally. In a paper read before the Clinical Society, March, 1893, I discussed the treatment of shock by the infusion of several pints of normal saline solution though an opened vein, and illustrated my remarks by some cases treated successfully by this method. So marked has been the benefit I have seen to follow this treatment, that I never perform a capital operation without including among my instruments a simple transfusion apparatus and a packet of salt sufficient to make four pints of normal saline solution. The collapse in these cases is probably due to vaso-motor paralysis of the large abdominal vessels, into which nearly all the blood in the body flows, leaving the head and extremities in a state of anæmia. The transfusion forces the stagnant blood into circulation again, and while stimulating the heart fills the vessels of the head and extremities. If required, the infusion is repeated.[5]

Sensitiveness of Peritoneum.—The question of the sensitiveness or otherwise of the peritoneum was raised by Mr. Lawson Tait in the "Lancet" for Jan. 21, 1893, and the varying opinions of many surgeons were there reported. While Mr. Tait thought the peritoneum exquisitely sensitive, others thought it devoid of sensation. My own views, as quoted in the article referred to, are as follows: It is impossible to answer the question by a simple "Yes" or "No," as I have found the parietal peritoneum sensitive and the visceral insensitive. This is, I think, easily accounted for by the parietal peritoneum receiving sensory nerves, while the visceral is only supplied by sympathetic filaments. The sensibility is proved by the pain on inserting the finger without anæsthesia, as I have done on several occasions, as also by the agony of perforation. The insensibility of the visceral peritoneum I have often proved in the second stage of enterotomy, gastrostomy, and similar operations.

Laparotomy under Cocaine.—Not infrequently a surgeon is summoned to see a patient with a view to the performance of abdominal section when it is manifest that to give an anæsthetic would be extremely hazardous. On several such occasions I have, after anæsthetizing the skin by means of ½ a grain of cocaine dissolved in 20 drops of 1 in 40 carbolic solution, opened the abdomen and successfully carried out what was necessary without the patient making any complaint of pain. Among these operations have been kelotomy for strangulated hernia, gastrostomy, operation for tubercular peritonitis, with drainage of the peritoneum, operation on the liver, etc. Mr. C. B. Keetley[6] advocates the performance of many other operations without anæsthesia, and in all cases where an anæsthetic is not absolutely necessary or may be dangerous.

Adhesions.—The importance of adhesions producing visceral disability and severe abdominal pain, at times even leading to such interference with functions as to cause organic disease and death, was illustrated by some cases I related before the London Clinical Society on Oct. 13th, 1893, when I suggested that in cases of obscure abdominal pains, where medical treatment had been fully carried out and failed, the abdomen should be opened, in order to clear up the diagnosis and at the same time to apply the treatment which might be indicated.

Dr. Frederick Roberts and Dr. Hale White[7] agreeing with the conclusions, related cases which might have been relieved by similar treatment.

Professor Clifford Allbutt[8] described a case of severe gastralgia existing for years, entirely unrelieved except by morphia, and finally

at *post mortem* a band connecting the stomach to the abdominal wall was found, there being no other organic disease discoverable.

Abdominal Injury.—The following conclusions arrived at by Sieur,[9] after an experience of thirty-eight cases of abdominal injury, apply to cases where there are good grounds for suspecting visceral lesion: (1,) Contusions of the abdomen complicated with visceral lesions, being almost invariably fatal, demand prompt surgical intervention; (2,) The history of the injury, the precise determination, and the group of initial symptoms presented by the patient will, in most instances, enable the surgeon to establish the diagnosis either of intestinal rupture or of hepatic or splenic laceration; (3,) The prospects of operative treatment will depend to a great extent on the promptness of the intervention, internal hæmorrhage and peritoneal septicæmia being the most dangerous complications; (4,) In cases in which the initial symptoms are mild the patient should be kept at absolute rest, and on a very restricted diet; on the appearance of the least sign of peritonitis the surgeon should at once operate; (5,) In such cases Robson's practice of making a small exploratory incision might be indicated; (6,) In cases of complete rupture of the intestine or of severe injury necessitating resection, enterorrhaphy with drainage would be the best plan of treatment; (7,) In lacerations of the liver the surgeon should have recourse to suturing or to plugging; (8,) In cases of laceration of the spleen the hæmorrhage will often be so profuse as to compel the surgeon to perform splenectomy.

Only two contra-indications are recognized forbidding operative interference: intense nervous shock immediately following the injury, and at a later stage, when the patient suffering from severe peritonitis is cold and cyanosed.

Gunshot Wounds of the Abdomen.—Von Bramann[10] reports eight cases of gunshot wounds of the abdomen the results of which have led him to conclude that all such cases should be treated by laparotomy as soon a possible, as the prognosis becomes more unfavourable after every hour, and—particularly as a result of septic perforation—peritonitis is very severe after an interval of twenty-four hours.

Transperitoneal ligature of Iliac Arteries.—Following on the ligature of the external iliac arteries through the peritoneum by Mr. Mitchell Banks and Mr. Makins, other cases have been reported during the past year; one by Mr. Makins[11] on the same patient but on the opposite side; one by Mr. Wherry,[12] a case of ligature of the internal iliac artery and vein; and one by Mr. W. H. Brown,[13] a case of ligature of the external iliac. Mr. Makins remarks that the right artery was much easier to expose than the left, but in neither case was there any

difficulty, the incision being through the linea semilunaris. Mr. Brown's incision was in the linea alba, and the patient being very stout the operation was attended with considerable difficulty both in exposing the vessel and applying the ligature. This operation bids fair to be the established one for ligature of the common, internal and upper part of the external iliacs, but the old operation for ligature of the external iliac at its lower third it will scarcely be likely to displace.

Intraperitoneal Cystotomy.— Although the bladder has on several occasions been successfully sutured after intraperitoneal rupture and has been opened through the peritoneum for vesical operations, where such a mode of procedure was unavoidable, as for instance in a case in which I successfully performed prostatectomy, where suprapubic cystotomy had been performed sometime previously leaving the peritoneum adhesive to the pubes and necessitating its being opened to get at the bladder; and in a case of Mr. Milton's[14] where an immense calculus weighing thirty-four and a half ounces was removed by the suprapubic incision, the peritoneum being of necessity freely opened; yet intraperitoneal cystotomy had not, I believe, been previously deliberately proposed as a regular procedure, until Dr. F. B. Harrington[15] suggested it and put it in practice. The Trendelenberg position is employed, and an incision from umbilicus to pubes is made, the bladder being then opened freely and afterwards closed by a double layer of sutures. We believe that in certain exceptional cases of tumour, such as epithelioma or sarcoma, this method will prove useful, but for all ordinary purposes the usual extra-peritoneal operation will be preferred, as being safer and yet efficient.

Resection of part of the anterior and lateral wall of the bladder has been successfully performed by Dr. Albarran,[16] for epithelioma, the site of the disease being approached by means of symphyseotomy.

REFERENCES.—[1]"Lancet," June 10, 1893; [2]"Arch. of Gynæcol.," June, 1893; [3]"Sem. Méd.," July 12, 1893; [4]"Brit. Med. Journ.," Nov. 12, 1892; [5]"Trans. Clin. Soc.," 1893, also "Lancet" and "Brit. Med. Journ.," April, 1893; [6]"Lancet," Nov. 18, 1893; [7]"Brit. Med. Journ.," Oct. 21, 1893; [8]Ibid., Nov., 1893; [9]"Arch. Gen. de Med.," July, 1893; [10]"Centralb. f. Chir. Beitage," No. 30, 1893; [11]"Lancet," July 22, 1893; [12]Ibid., July 15, 1893; [13]Ibid., July 1, 1893; [14]Ibid., Sept. 16, 1893; [15]"Ann. of Surg.," Oct., 1893; [16]"Sem. Méd.," Jan. 18, 1893.

ABORTION.

In cases of incomplete abortion, in which the os uteri has tightly contracted, but continuous hæmorrhage is still maintained, Dr. Davis[1] uses the **Iodoform Gauze Tampon**, one end of the gauze being inserted inside the os if possible, and with full antiseptic precaution. Uterine

contraction is soon set up, dilatation follows, and any presenting portions of placenta having been removed by the finger, the douche curette is used with a 1 per cent. **Creolin** solution at 100° Fahr. Moderate tamponing is then again resorted to for twenty-four hours, after which the plug is removed, and another creolin douche administered.

Pryor[2] reports a case of acute peritonitis following abortion, in which he curetted the uterus, and packed it with **Iodoform Gauze.** The peritonitis subsided, the uterus became movable, and the tenderness disappeared. Polk supports the treatment, and alludes to the further procedure of opening the abdomen, if necessary, after curetting and treating the peritonitis by drainage—a procedure reserved, fortunately for a limited class of cases.

Wilson[3] describes an unusual condition that has been overlooked in the category of sequelæ requiring treatment. In the course of two weeks, or even a longer time, after the removal of the placenta, with the cessation of hæmorrhage and the disappearance of all symptoms, the patient is seized suddenly with bearing-down pains and hæmorrhage. Examination reveals a polypoid growth protruding through the relaxed cervix. This condition is due to subinvolution of the uterus at the placental site, with the leakage of blood which has become organized. The sinuses remain open, and the congestion increases until some unusual exertion on the part of the patient induces hæmorrhage. The treatment consists in the removal of the mass by the finger or by the curette, and the administration of ergot to overcome the subinvolution.

REFERENCES.—[1]Davis, "Therap. Gaz.," Feb. 1893; [2]Pryor, "Amer. Journ. Obstet.," April, 1892; [3] Wilson, "Med. News," Nov. 5, 1892.

Synopsis.—(Vol. 1893, p. 64.) **Asafœtida** in pill, 1½ gr. twice daily, and slowly increased to 15 grs., then gradually reduced till confinement.

ABSCESS (Mammary). *Paul F. Mundé, M.D., New York.*

I first began to employ compression by a large wet sponge for the cure of mammary abscess about the year 1875. I do not recollect precisely how my attention was first called to the method, but, so far as I know, the idea was original with me, and I never before saw it applied or heard of it being used for abscesses of the breast by anyone else. I rather think that my experience as an army surgeon in the treatment of large superficial abscesses and suppurating sinuses by compression with properly fitted *unopened* roller bandages and wads of cotton, or sponges, led me to apply the same principle to abscesses of the breast.

The ease with which the mamma can be compressed against the

flat unyielding surface of the thorax by roller bandages or broad cloths renders abscesses of this organ most adapted to this method of treatment.

The object is, by steady, uniform, gentle compression to keep the cavity of the abscess free from pus and serous accumulation, and by holding the walls of the abscess in apposition, induce the fresh granulations to unite and thus close the cavity.

This treatment is, of course, applicable only to fresh abscesses with healthy granulating walls capable of agglutination and union. Where the abscess has persisted for some weeks or months, and the inter-lobular cellular tissue of the gland has been destroyed by suppuration, and only broken-down, unhealthy granulations exist, the removal of this diseased tissue by the curette and packing with iodoform gauze until the wound has assumed a healthy granulating appearance, must precede the closing of the cavity by sponge compression. This, however, is not the class of cases to which I first applied my method, and, still, I have succeeded in curing two cases of old, chronic mammary abscess, one of three months', the other of a year's duration, in this manner, without the use of knife or curette. In both instances, it should be stated, however, that the abscesses, or rather sinuses, were superficial, and therefore more amenable to this treatment. Both were entirely well in less than two weeks.

My method is very simple, and this simplicity has required but very little modification since its inception. It consists in the proper selection of the case (viz., a fresh abscess, not an old, neglected, necrotic cavity), a *large* flat, coarse bathing sponge, two large three-cornered cloths (unbleached muslin or very large square handkerchiefs, folded from corner to corner) or a broad, long roller bandage, a piece of oiled silk large enough to cover the sponge, and some large nursery pins.

The *modus operandi* is as follows: The patient presents herself with a large fluctuating abscess of the breast; this is opened by one moderately large radiating incision at the most dependent point, the pus is gently expressed, and the abscess cavity irrigated with a 1 to 10,000 bi-chloride solution or, what is probably just as good, plain boiled (sterilized) water, all of which is gently squeezed out, and the abscess-cavity closed by gentle manual compression by the patient herself, while the other dressing is being made ready. The sponge, which has been previously thoroughly cleansed by boiling, and has been freed from sand and other impurities, is now fitted to the shape of the collapsed breast by hollowing it out in the centre with scissors, so as to admit about one-half of the organ. It is then soaked in as hot

water as can be borne by the hand, rapidly squeezed out in a towel, placed over the breast so as to entirely envelop it, covered with the piece of oiled silk, and then uniformly and evenly compressed against the thorax with the roller bandage, or with the two three-cornered cloths, the first cloth being applied over the lower part of the breast and tied or pinned behind the neck, the other straight around the thorax. Compression should be as tight as the patient can comfortably bear. The other breast, I must not omit to mention, must be protected by a covering of cotton wadding.*

This dressing is left undisturbed until the next day, except, if necessary, tightening the bandages, as they may become loose. On the following day, the whole dressing is removed, the sponge washed in hot water and re-applied as at first, and this procedure is repeated every day until the abscess is completely healed, which, in my experience, has seldom been longer than a week. Indeed, the cavity is usually closed after the third daily dressing ; but to avoid possible pocketing of pus through uneven application of the compression, it is well to examine the breast carefully each time, and if such pocketing is found, either express the pus through the original incision, or make a new opening. I have never known this occur when I myself applied the dressings, for I have always been particularly careful to adhere to the indispensable axiom of success, that is—*uniform, even compression of the breast from the periphery towards the centre, and from the surface towards the thoracic wall.*

Occasionally, especially if the abscess has been opened and this method employed while there was still an unsubdued cellulitic induration of a part of the gland, the original abscess may be healed by compression and an additional fresh abscess form by its side, which should then be treated in the same manner.

However, I have known a mammary abscess to refuse to close under the routine treatment of drainage tube, gauze packing and irrigation, which produced a secondary infiltration about the wound, and heal completely within a week, with entire disappearance of the infiltration under hot, wet sponge-compression.

It is seldom necessary to change the sponge-dressing oftener than once in the twenty-four hours.

In properly selected cases the method is so simple that I can

* It may be as well to mention that nursing from the sound breast should be suspended until the sick breast is well. Convalescence would only be retarded by the sympathetic congestion of the inflamed breast, produced by the physiological activity of the healthy side. If the treatment is successful and the abscess heals within a week or ten days, it may not be impossible to restore lactation on the sound side, and *possibly* even in the one that had undergone suppuration. The compression of the healthy breast by the bandages which cover the diseased one controls the lacteal secretion, and eventually, if kept up long enough, suppresses it.

remember when I first began to use it, in several charity cases, showing the husband how to apply the sponge and bandages, the recovery being as rapid as if I had done it myself. I have used this treatment in every *fresh* case of mammary abscess which has come under my observation in the last eighteen years (and I may say that the number has been fairly large, in some the abscess involving the whole gland, which floated in a sea of pus), and in not a single instance have I failed to achieve a prompt cure. Several times the abscess was of longer duration than a few weeks, and had been treated by repeated incision, irrigation, drainage, and gauze packing by other surgeons, and still, by sponge compression, aided by judicious pressure with wads of gauze or wet cotton, the old sinuses were speedily closed without knife or curette. However, as I have already stated, old, necrotic abscesses are not fit cases for this treatment until a healthy granulating wound has been secured.

One old abscess was of a non-puerperal traumatic origin. It had lasted over a year, and had been unsuccessfully treated with plasters and ointments. I cured it permanently in a week by sponge compression. In several instances, the abscess was sub-mammary, and I found these cases particularly amenable to the treatment.

I have never brought this method prominently before the profession, except casually on two recent occasions (see my letter in the March, 1893, number of the "Amer. Journ. Obstetrics"), partly because I considered it so self-evident that undoubtedly it must have been employed by others as well as by myself, perhaps before me; and partly because gynæcological topics have gradually occupied my attention more than those of a purely obstetrical nature. I am pleased, however, even at this late date to avail myself of the invitation of the editors of the "International Medical Annual" to place such claims as I may possess (if, indeed, I do possess any) to the priority of the method on record before the profession; and I beg to thank the editors for their courtesy.

Synopsis.—(Vol. 1893, p. 19, 28.) Incision and application of **Dermatol Powder** is very effective. **Peroxide of Hydrogen** solution for cleansing abscess cavities.

ABSCESS (Sub-phrenic). *A. W. Mayo Robson, F.R.C.S.*

Sub-phrenic abscess, though probably seldom, if ever, idiopathic, constitutes so distinct a disease that it often needs treatment directed to itself and not to the cause, which may be, and often is, so obscure as to be unrecognisable.

Dr. Clifford Allbutt[1] proposes to divide the secondary abscesses into: *(a,)* The continuous; and *(b,)* The discontinuous. Under the

latter form is given abscess secondary to perityphlitis, where there is no direct continuity between the one and the other. Under the former are included cases secondary to ulcer of stomach, hepatic abscess, gall stones, etc.

Some time ago I operated on a case which I believed to be due to a breaking down pancreatic cyst, and on another that was secondary to pelvic suppuration.

Vaulair[2] relates an interesting case operated on successfully where the sub-phrenic abscess contained air from a perforation of the colon.

Mason,[3] from an analysis of seven cases coming under his observation, says that when the disease arises from a perforation of some part of the gastro-intestinal tract it usually proves fatal, though the form arising from appendicitis is the least dangerous of these cases.

When the abscess is of hepatic, perihepatic, or perinephritic origin, and presents under the arch of the diaphragm, it may often be successfully treated by incision and drainage.

A discussion[4] on a paper by Drs. Penrose and Lee Dickinson at the London Clinical Society shows how difficult the diagnosis of these cases is.

When discovered, incision and drainage is the treatment, and I have found no difficulty in two cases of this kind in opening the abscess through the pleural cavity by suturing carefully the parietal and visceral pleura before incising the diaphragm.

REFERENCES.—[1]"Clinical Journ.," June 7, 1893; [2]"Rev. de Méd.," July, 1893; [3]"Boston Med. and Surg. Journ.," vol. 129, Nos. 8, 9, 10; [4]"Brit. Med. Journ.," Jan. 21, 1893.

ACNE ROSACEA. *T. Colcott Fox, M.B.*

Petrini de Galatz incises any pustules and paints on for three successive days the following :—

℞ Resorcin gr. xv | Collodion ℥j
Ichthyol gr. xxx |
M. ft. applic.

In five or six days the collodion cracks and comes off. The application may be repeated a second or third time. A cure is frequently attained in fourteen to twenty-one days.

Stelwagon found **Ergot** the most potent internal drug in cases depending on uterine trouble. The chief reliance must be placed on external treatment. Where hyperæmia is active lotions or ointments of calamine, tannic, or boric acid, must be used with the addition in some instances of one or more grains of sulphate of zinc to each ounce. More sluggish cases should be treated like ordinary acne. Capillary

dilatations are destroyed by repeated multiple punctures, or by electrolysis.

Schwimmer recommends in rosacea, as in ordinary acne, the application of a mild caustic paste (pasta decorticans) :—

℞ Sulphuris Præcip. | Saponis Viridis 10 parts
Naphthol β āā 5 parts by weight | Adipis Preparat. 12c—30 parts

This should be applied at night for several days in succession and allowed to remain in contact with the surface for one or two hours, when it may be washed off, and a dusting powder applied. Free desquamation follows, and then ichthyol in solution is painted on several times daily and used as an ointment at night. Scarification may be necessary in severe cases. Where hyperæmia is marked ichthyol does good, and the following lotion may be used with ichthyol :—

℞ Saponis Viridis, 50 parts by weight,
Alcohol rectif., 100 parts, solve, deinde filtra et adde
Sulphuris præcip., 5 parts.

ACNE VULGARIS. *T. Colcott Fox, M.B.*

In addition to general medication, Renault in *mild* cases dabs the face lightly night and morning with water previously boiled and applied as hot as the patient can bear it with a sponge which has been kept in a 1 per cent. solution of **Corrosive Sublimate.** In *moderate* cases **Sulphur Ointments** (1 to 10) may be applied at night, or the face be painted with 10 parts of salicylic acid or 4 parts of iodoform in 30 of ether. In severe cases, where comedones and pustules are abundant, and there is much induration, he advocates rubbing the face with black potash soap at bed time for several nights, leaving the lather on till morning, when it may be washed off with warm water and the face powdered with starch. When the skin gets irritated to a sufficient degree emollient sprays or lotions are substituted, such as bran, starch, or mallow-water with a third of a 20 per cent. solution of **Boric Acid.** The skin after the application must be dried and dusted with starch. After alternating these irritating and emollient treatments for five or six weeks, the remaining redness may be combated by applying at bedtime with a brush the following lotion recommended by Besnier :—

℞ Sulphur. Præcip. | Alcohol Camphorat.
Glycerin (mixed in water) | Aq. Rosæ āā partes æquales

Any indurated nodules which resist may be either destroyed with a very fine thermo-cautery, or subjected to linear scarification.

Duhring points out that in acne it is usually necessary to change remedies at frequent intervals, as generally they lose their power in a

short time. Different cases yield to different lines of treatment. Of all remedies **Sulphur** is the one suited to the greatest variety of cases. He gives the following formula :—

℞	Sulphur. Præcip.	℥jss	Aq. Cologniensis		f℥ss
	Acid. Borici	f℥ss	Alcohol q.s. ad		f℥vj
	Ætheris	f℥j	M.		

Sig.—Apply the sediment as a wash twice daily.

Where lesions are sluggish and indurated, Vlemminck's solution diluted with 1 to 3 parts of water and applied for ten to twenty minutes twice daily often causes a beneficial exfoliation.

Schwimmer converts a disseminated acne into a diffuse inflammation by the use of an ointment composed of ℥ijss each of sublimed sulphur and starch, ℥v of green soap, and ℥ij of lard. A light coating should be applied for one to two hours in the evening upon a portion of the face, which is then bathed in warm water and dusted for the night with an indifferent powder. After one or two weeks, a more or less intense inflammation and desquamation of the parts are produced and the papules disappear. Then ichthyol solution is painted on twice or three times daily and ichthyol ointment applied at night.

Stelwagon recommends removal of the comedones and the application of the usual sulphur lotions, or a saturated alcoholic solution of boric acid, or an aqueous solution of boric acid with 5—20 grains of sulphate of zinc to the ounce, or an aqueous solution of resorcin (5—40 grains ad ℥j). Sulphur and ichthyol are of much greater service than mercurials.

Leslie Phillips, in cases of localized chronic acne, where a large number of spots are aggregated, recommends brushing the part with **Lysol**, which is removed by dabbing with blotting paper, and the area painted with a thin layer of **Kristaline**, a transparent proprietary lacquer manufactured in America. This film is invisible and will last nearly a week.

References.—Renault, "Rev. de clin. et de Thérap.," 1892 (quoted, "Brit. Journ. Derm.") Feb. 1893 ; Duhring, "Internat. Clinics," 1893 ; Schwimmer, "Viener. Mediz. Wochen.," 1892, pp. 1130-1187; Stelwagon, "Therap. Gaz.," Feb., 1893 ; Leslie Phillips, "Brit. Journ. Derm.," Oct., 1893.

ACROMEGALY.

Synopsis.—(Vol. 1893, p. 65.) A well marked case improved under **Antipyrin** and **Arsenic** internally.

ACTINOMYCOSIS.

Schlange[1] emphasizes the relatively great tendency of actinomycosis to spontaneous cure when the fungus may readily reach the outer skin and there be thrown off as a foreign body or sequestrum, as in

the neck and on the cheek. In those fairly numerous cases, it was sufficient to make a simple incision and scrape the softened points without further extirpation of the surrounding hardened tissue, and the disease usually quickly disappeared. Grave operations are only as a rule indicated where the process extends into the deeper tissue layers. Here it may be necessary to render possible the spontaneous extrusion of the fungus, or to facilitate it by laying bare to a large extent the diseased region. Meunier[2] observed a case of actinomycosis, the disease appearing in the form of a dense phlegmon, attacking the cervical region. Before ascertaining the true nature of the tumour, **Iodide of Potassium** was administered, 25 grains a day. The result of this treatment was cure of the patient, so that Meunier agrees with Thomassen in the belief that the iodide is a specific against this disease. Ziegler[3] reports a case successfully treated by injections of **Proteine** (a substance analogous to tuberculin in composition) extracted from cultures of staphylococcus aureus. Slight feverishness, local pain and redness followed their use, but on one occasion only did the temperature rise to 39·5° C. The amelioration was very marked, the tumefied condition of the left cheek disappeared, and the inferior maxilla regained its normal range of movements which had previously been greatly impaired.

REFERENCES.—[1] "Berlin. klin. Woch.," No. 29, 1892; "Therap. Gaz.," May 15, 1893; [2] "Revue Méd. Chir.," No. 7, 1893; [3] "Revue de Thérap. Gén. et Therm.," July 20, 1892.

Synopsis.—(Vol. 1893, p. 65.) For diffuse infiltrations, hypodermic injections of **Carbolic Acid** in **Glycerine**, using 1 to 3 grammes of 5 % solution at a sitting, repeating them in from two to five days. Pledgets of cotton wool soaked in the antiseptic are introduced into sinuses. Raffer used 1 % solution **Methyl-violet** with the **Carbolic Acid** and apparently with good effect. Scraping with **Spoon**, or use of **Knife** may be combined with the injections.

ADENOID GROWTHS OF THE NASO-PHARYNX.

Greville MacDonald, M.D.

But little has been added to our knowledge of these important neoplasms during the last few years, although the disease is so widespread, and the accumulated experience of specialists and others so great. There is one point, however, which appears to be steadily impressing itself more forcibly upon the profession in general, viz., the immense influence of these obstructions to nasal respiration upon the general health. We find that, generally speaking, the younger the patient the greater the interference with general nutrition, *cæteris paribus*. It would appear that, as the patient grows older, he learns the more easily to supplement nasal with buccal breathing, and

in so far to suffer less. The younger the patient the stronger is the instinct of nose-breathing, so that in infants we invariably see the greatest distress ensuing from but slight nasal stenosis, although, had they but discovered it, mouth-breathing would, of course, be perfectly easy. The writer has ascertained from frequent observation that these patients generally, and in spite of the often very grave obstruction in the nose, adopt nasal breathing, and not infrequently to such an extent that we perceive actual recession of the anterior triangles of the neck and of the supra-clavicular fossæ during inspiration. This is to be observed especially during sleep, and even when the mouth is apparently open, the latter being no guarantee that breathing is conducted through the mouth. One may easily satisfy himself upon this point by holding a small piece of cotton wool in front of the mouth or nostrils.

Now, in older patients suffering from obstruction to nasal respiration, we do not usually find any serious interference with general nutrition, even when the obstruction has persisted for many years. Such patients habitually adopt buccal respiration, which, although often harmful enough to the respiratory passages, yet after all does not interfere with perfect supply of air to the lungs. On the other hand children generally breathe through the nose in spite of obstruction, the immediate consequence being deficient aëration of the blood, and the inevitable anæmia and malnutrition which is so commonly observed when the obstruction has persisted for any length of time; and it is probably not stretching a point too far if we attempt to account for any other symptoms, frequently or occasionally observed, on such an hypothesis of deficient aëration of the blood, rather than considering them as reflex neuroses. Thus laryngismus stridulus, convulsions, chorea, asthma, stammering, incontinence of urine, etc., are all symptoms which the writer has often seen entirely removed by the eradication of post-nasal adenoids. The diagnosis of the condition presents no difficulty whatever. The snoring, buccal respiration, the speech so commonly associated with nasal obstruction, when associated with deafness and not accompanied by nasal catarrh with tumefaction or hypertrophy of the inferior turbinated bodies, almost necessarily mean adenoids. Of course coryza and anterior nasal obstruction may be, and frequently are, co-existent. But such affections alone, and without posterior obstruction, may produce similar symptoms. And in such case, as well as for the sake of eliminating the possibility of mistaking fibrous tumour or posterior enlargement of the inferior turbinated bodies for adenoids, it is always advisable to verify the diagnosis with the post-nasal mirror or the finger.

The only treatment for these cases is operation. Attempts at removing the growths with the finger nail are steadily growing into disrepute, owing to the imperfect nature of the operation and the consequent greater frequency of recurrence than when the whole mass has been carefully removed by Loewenberg's forceps. Than these no better instrument has yet been devised. The curette, either introduced through the anterior nares, or curved for inserting behind the velum is becoming a favourite instrument in certain quarters, especially when it is desirable to operate rapidly and without an anæsthetic. The objection to the curette is that it frequently leaves pieces behind, especially those attached to the highest point; while the objection to the forceps is that, unless the operator is highly skilled, there is risk in wounding the Eustachian tubes, and even of fracturing the septum.

ALBUMINURIA.

Lauder Brunton[1] considers intermittent albuminuria of great importance in Life Assurance. Enquiry has elicited the fact that the health almost always undergoes marked deterioration in the course of a few years; and observers have come to the conclusion that albuminuria, even if intermittent, should preclude assurance except at a premium. The presence of albumen in persons over middle age is of special importance. He insists on the pathological importance of that variety of albuminuria in which, with a slow specific gravity, the quantity of albumen present is so small as only to be perceived with the greatest care. This form is indicative of gout of the kidney, a form in which the disease may advance to such an extent as to threaten the life of the patient, with but the merest trace of albumen present in the urine. If properly treated with a non-nitrogenous diet and warmth to the surface these cases may go on for years. Another form of chronic albuminuria of less prognostic gravity is that associated with chronic malaria. This is probably due to venous congestion during the attacks of ague.

Lancereaux[2] teaches that albuminuria in itself is not a serious thing, for it often exists in gouty or rheumatic conditions, in nervous diabetes, and in obesity. It is the retention of excrementitious matter that is dangerous. While there are no antidotes for uræmia, the tendency can be greatly modified by the use of **Drastics, Diuretics**, and **Cutaneous Stimulants.** The uræmic attack over, whatever tissue is most affected must receive special attention. If it is connective tissue, **Iodide of Potassium** is prescribed; if renal epithelium, then **Tincture of Cantharides**, from 6 to 12 drops daily, to produce free diuresis and relieve anasarca. He considers a mixed diet best, without much

nitrogenous food, and prefers beer to wine. In albuminuria there is stasis in the renal circulation. There is always direct or indirect involvement of the kidney. Pancreatic diabetes is never complicated with albuminuria, which is a symptom independent of glycosuria. In constitutional diabetes albuminuria is a late symptom; in diabetes of neurotic origin it is transitory and intermittent. [To these views considerable exception has been taken.—Ed.]

G. Sée's[3] views are as follows:—

(1,) Bleeding, dry cupping, and *blistering* are all therapeutic measures that tend to increase the albuminuria and the nephritic disorder.

(2,) *Sudorifics*, destined to enhance the action of the skin, such as lukewarm baths, massage, saline mineral waters, and vapor-baths, are, to say the least, dangerous measures. Internal diaphoretics, particularly pilocarpine, are toxic and too uncertain.

(3,) *Diuretics* are only useful in certain nephritic oligurias, and have no general application. They are especially contra-indicated in interstitial nephritis. All diuretics are to be condemned, particularly the sodic alkalines, Vichy, Royat, and Saint-Nectaire mineral waters. **Lactose** may be employed, as it does not affect the kidneys directly.

(4,) *Purgatives* are no better than diuretics.

(5,) The *cardio-vascular medicaments*, such as digitalis, strophanthine, convallamarine, caffeine, and sparteine, have no special application; they rarely act as vascular agents alone, and are poisons to the kidneys, with the exception, perhaps, of caffeine and sparteine. The iron preparations, considered as tonics, such as the wine of quinquina, for instance, are sure to increase the nephritis.

(6,) The *vasor-motor iodides*, which are generally *vaso-motor dilators*, are only serviceable as antisyphilitic remedies, and are to be used in renal disease of syphilitic origin. They do not cause renal obstruction, since they are readily absorbed, although their elimination is not always certain.

(7,) The remedies recently brought forward are **Strontium** and **Calcium.**

The observations of Paul, Dujardin-Beaumetz, and those of the author prove that these therapeutic agents are of value. They may be prescribed as follows: **Lactate of Strontium,** 4 grammes per day; **Bromide of Strontium,** 4 grammes per day; **Bromide of Calcium,** 4 grammes per day; **Chlorbromide,** 4 grammes. The latter substance is of special advantage, as it does not cause symptoms of bromism.

Lécorché and Talamon[4] very justly observe that it is not proper to

condemn every albuminuric to a milk diet in perpetuity. Like every remedial agent milk has its limitations, indications, and contra-indications. An enforced and long-continued regimen of milk may become more formidable in its deleterious consequences than the albuminuria for which it was ordered. These observers present an array of facts and cases in support of this contention, which cannot be met by the theoretical assumption that milk ought to do good always. Nutrition, they have found, invariably suffers in the long run, even when 4 quarts per day are consumed. They describe as follows the status of a person who has subsisted for some time on milk alone: The face is pale, the muscles flaccid, there is an inability to perform brain-work, or to use the muscles for more than short periods. In a word, the vital energy is much reduced.

To most albuminurics, milk may be given as a medicine, but not as an exclusive article of food. It is not even known whether the milk albuminoids may not undergo the same toxic transformation in the human body as meat peptones. Certainly the gastric troubles that milk often produces cannot be overlooked.

Milk undoubtedly does good in the acute exacerbations of chronic nephritis, in the "poussées aiguës hématuriques, albuminuriques, uriniques ou hydropiques." But one must know when to stop. Albumin does not disappear from the urine under milk treatment in chronic cases. In a ten days' or two weeks' course of exclusive milk treatment, all the good that can accrue is likely to have been accomplished. Above all, one must be careful not to induce the condition of "lacteal anæmia."

REFERENCES.—[1] "Lancet," vol. i. p. 416, 1893; [2] "Revue Générale de clinique et de Thérapeutique," Oct. 5, 1892; [3] "Therap. Gaz.," March 15, 1893; [4] "La Mèdecine Moderne."

Synopsis.—(Vol. 1893, pp. 14 and 48.) **Cantharides** ½ to 1 drop thrice daily, with or without **Digitalis**. **Strontium Lactate** is recommended in albuminuria of pregnancy or after delivery: or in parenchymatous nephritis due to rheumatism, scrofula, or gout, a solution of 2 ounces to ½ pint of water was used and a dessert spoonful taken night and morning.

ALCOHOLISM.

In the treatment of acute alcoholism Lancereaux[1] insists on a course of *inducing sleep* by all possible means. The patient should be isolated and placed in a dark room, under a careful watching; but no attempt should be made to enforce the use of the straight jacket, as such a procedure is apt to increase the mental excitement and to hasten death in many instances. According to the author, the bromides act too slowly in acute cases; **Opium** and **Morphine** are decidedly useful to induce sleep, but as large quantities are required

in most cases, the **Hydrate of Chloral** is to be preferred. This remedy, with or without morphine, has always given the best results in patients who have been previously isolated and in whom the use of the night-shirt has been dispensed with. The use of the chloral is indicated, but in order to bring on sleep large doses must be employed, since small quantities of the drug, on the contrary, excite alcoholic patients and are apt to enhance a fatal issue; 4 or 6 grammes of the medicament should be given at once in 150 grammes of an electuary containing 50 grammes of the syrup of morphine. If, in ten minutes after the ingestion of the potion here recommended, sleep has not been induced, a hypodermic injection of 1 or 2 centigrammes of morphine should be practised. If necessary, a second dose of the chloral mixture should be given. With this treatment, the patient, according to the author, will be ready to attend to his usual occupation in from twenty-four to forty-eight hours.

Writing on the prognosis of chronic alcoholism in the light of its pathology, Dr. Thomas Barlow[2] says that the three great factors by means of which recovery takes place are undoubtedly the withdrawal of alcohol, the administration of food, and time and the natural tendency to elimination and repair. **Shampooing** and **Galvanism** are helpful in the middle and late stages, harmful in the early stages. **Sunlight** and **Bracing Air** and **Change of Surroundings** are invaluable. When alcohol is withdrawn and food assimilated, there is a natural tendency towards complete recovery independent of all therapeutics. There is a tendency towards partial recovery even if the alcohol be not entirely withdrawn but diminished in concentration and quantity, if only there be acquired a certain improvement in the assimilation of food. Dr. Barlow directs attention to the popular fear of heart-failure by the absolute withdrawal of alcohol, but he considers that the rapid pulse, and the thin, short, clear tic-tac sounds are direct manifestations of the poison; and that, for the sake of the heart itself, we must withhold alcohol. As to the fear of precipitating delirium tremens if the administration of alcohol be suddenly stopped, he considers that even if it occurs the ultimate prognosis is better in the long run for the bold measure of removing the cause. In feeding the patient we have often a difficulty arising from the proneness to vomiting. We have to meet the objection in an alcoholic dyspeptic that nausea and vomiting recur, and that spirit is the only thing which will quiet the stomach, and so a vicious circle is kept up. That alcohol will temporarily quiet the vomiting by blunting the irritability of the pneumogastric nerve-endings in the stomach wall is perfectly true; but is that a benefit? After all, the vomiting may be

nature's effort to get rid of catarrhal products. Alcoholic vomiting is not always so distressing in itself, it is sometimes quite easy ; and not infrequently after the dislodgment of a quantity of thick mucus a little food may be taken by the patient without loathing. Indeed, one great indication is to get rid of the thick, sticky, tenacious mucus which is so abundant, and which interferes with assimilation and favours auto-infection with faulty digestive products. It is for this reason that Dr. Barlow believes **Alkalies** and very **Hot Water** are so helpful. The lesson to be learned from the spontaneous recovery of alcoholic neuritis is that we are to be patient. We can afford to fold our arms and wait for awhile if the administration of the poison has been stopped and food is being assimilated. It is a short-sighted policy to replace the alcoholic craving by a desire for sedatives. A few sleepless nights are better than lowering the appetite or the general nutrition by the administration of sedatives. Our aim should be to strengthen the individuality of the patient rather than to make our own individuality dominate his. To recapitulate : Let us remove the irritant. Let us concentrate our main attention on the giving of food and its assimilation. Let us do all we can to favour elimination of "dead stuff," and to secure fresh air and sunshine. Above all, when we are on the right tack, let us be patient and hold on, and then we shall be justified in taking a less despairing view of the prognosis of chronic alcoholism than that which commonly obtains.

Mann [3] recommends the following in the treatment of dipsomania ; it acts as a tonic and sedative, and antagonizes the effects of alcohol in the various structures of the body, including degenerative changes in the brain :—

℞ Quinia Sulph.	gr. ij	Arsenic	gr. $\frac{1}{100}$
Zinc Oxide	gr. ij	Capsicum	gr. ij
Strychnia Sulph.	gr. $\frac{1}{40}$		

M. et ft. pil. No. j. Sig.—1 pill three times a day.

Together with this pill, Mann uses for sixteen days the following hypodermatic dosimetry :—

℞ Strychnia Nitrat.	gr. j	Aquæ dest.	℥ss

M. Sig.—8 minims daily for eight days ; 4 minims daily for another eight days.

To quiet the morning nausea of alcoholics, 2 or 3 drops of **Wine of Ipecacuanha** on the tongue, fasting, are given.

The patient is kept in bed for the first few days, and nourished with milk and meat-juice. **Hydrotherapy** and **Electrotherapy** are em-

ployed. To induce sleep, the following sedative is administered at night for a few days :—

℞ Tr. Opii deod.		Tr. Capsici	ʒss
Fl. Ext. Hyoscy.		Tr. Aconit. rad.	♏v
Chloral Hydrat.		Aqua Menth. Pip. ad	ʒiv
Pot. Bromid.	āā ʒj		

M. Sig.—2 tablespoonfuls at bedtime for a few days only, freely diluted with water.

If the patient is very much excited and is bordering on delirium tremens, the following is useful for two or three nights :—

℞ Hyoscin. Hydrobromat.	gr. j	Spir. Vini rect.	ʒj
Aquæ dest.	ʒix		

M. et ft. hypodermatic solution. Sig.—Dose from 5 to 10 minims *pro re nata*.

The diet table consists of milk, eggs, oysters, meats, fish of all kinds, buttermilk, and koumiss, *plus* a minimum amount of the cereals. Vegetables and starchy foods are allowed only very sparingly.

Steell [4] points out that cases of heart failure from chronic alcoholism are often mistaken for Bright's disease. He finds that, as in heart failure in general, the three cardinal symptoms are : (1,) Dyspnœa. This is at first purely cardiac, but soon bronchial symptoms set in. It is however, earlier and more pronounced than the dyspnœa of chronic Bright's disease, which is usually due to secondary heart failure ; (2,) Dropsy. This is characterized by its wide distribution and caprice of localization. Thus the upper extremities are often involved, the surface of the trunk almost invariably so, and the scrotum frequently. Steell recognizes a peripheral, as well as a central, cause for the dropsy ; (3,) Enlargement of the liver. This is too often attributed to active rather than passive congestion. Cirrhosis results most commonly from spirit drinking, and heart failure from beer drinking. The enlarged tender liver of heart failure is a much more prominent feature than is generally supposed. As to treatment, the habit of alcoholism must be abandoned as soon as convalescence is established, but while the patient is dangerously ill Steell does not hesitate to order alcohol freely. While not denying the occasional efficacy of **Strophanthus, Caffeine,** and the like, he considers that there is but one remedy for alcoholic heart failure, and that is **Digitalis.**

For dipsomania in general the following may be used [5] :—

℞ Tinct. Capsici.	♏x	Spir. Ammon. aromat.	ʒj
Sod. Bromid.	gr. x		

M. To be taken in a little water three times a day.

REFERENCES.—[1] "Therap. Gaz.," May 15, 1893, "Bull. Génér. de Thérapeutique," Feb. 15, 1893; [2] "Med. Chron.," vol. xvii., p. 215, 1893; [3] "Med. Age;" [4] Steell, "Med. Chron.," April, 1893; [5] "New York Med. Journ."

ALOPECIA AREATA. *T. Colcott Fox, M.B.*

There is no doubt that the appearances ordinarily denominated alopecia areata can be produced by various causes, such as traumatism, nervous agencies, and vegetable parasites, probably of more than one kind. We are not as yet however in a position to estimate the frequency of the parasitic causation, or to tell in the majority of instances whether a given case is of parasitic origin or not. Consequently our treatment must remain for the present to a large extent empirical.

American dermatologists have been debating the value of the *internal administration of* **Arsenic**, and the general opinion was that it had not any specific action. This drug appears to be largely used, partly because alopecia areata is a skin disease and therefore by many resort is made to arsenic as a curative agent, and partly no doubt to the teaching of Duhring, who says arsenic is generally indicated but allows that it often fails. In a further discussion on *the Comparative value of Carbolic Acid and other topical remedies*, the general opinion attributed the efficacy of remedies to their stimulating properties, and did not accord special virtues to carbolic acid. White preferred a mixture of ʒj **Croton Oil** in Hss—Hj of **Oil of Turpentine** which was intensely stimulating, and picked out the follicles. The French **Essence of Cinnamon** was less effective in his experience. Fox and Morrow had not obtained any specially good results from carbolic acid. The latter physician had also tried **Pyrozone** without getting superior results. Piffard believes the comparative value of topical remedies to be in direct ratio to their severity. He prefers ordinary blistering **Collodion,** though he has found **Carbolic Acid,** a 10 per cent. solution of **Iodine in Collodion,** and a caustic solution of **Peroxide of Hydrogen** successful. Morison advocates blistering the edges of the patch with **Hydrarg-Perchlor.,** grains v; **Salicylic Acid,** ʒj; **Collodion,** ʒj; and then applying salicylate of mercury in lanolin. Jackson again speaks well of an old remedy, the stronger water of **Ammonia.** In England this is occasionally used as lin. ammoniæ (B.Ph.) made with the stronger water.

Duhring likes carbolic acid, fʒj, alcohol, fʒvij, and in obstinate cases he blisters with carbolic acid. **Chrysarobin** is still better, but its use needs superintendence by the attending medical man. A third question connected with the treatment, which was debated by the

same body, was *the value of epilation of the margin of a spreading patch*, as practised in France. It seems to be widely adopted in America and most speakers thought the operation attended with good results, but allowed that it was a difficult point to decide, and that the method did not always prevent the spread.

Hallopeau has obtained very good results with 1 part of **Oil of Wintergreen** (Gaultheria) in 3 of **Ether.** This parasiticide has an agreeable odour, is painless, and does not cause inflammatory redness. This seems to show that irritant effects are not always so necessary as supposed. **Essence of Canella** (oil of cinnamon), like many other essences, is a strong antiseptic, and has a good repute, and is much more efficacious than Chinese canella. The essence of canella as found in commerce is said to be altered by light and contact with air. It should be double distilled and kept from air and light, and thus has been called cinnamol by André to distinguish it from the preparation of commerce. Butte finds **Iodized Collodion** effective in the achromatic forms, where only a few sharply circumscribed patches exist. Taking alopecia all round, he finds **Frictions with Oil of Cade** succeed better. Ehrmann has obtained good results from the application of a **Faradic Current** of feeble intensity.

Bellasera recommends that the hair be cut three times weekly just around the patches, and that at night an ointment be applied consisting of naphthol β, 12—14 grammes, balsam of Peru, 1 gramme, vaseline 100 grammes, and that in the daytime an alcoholic solution of the same be used.

Brocq in summarizing some recent French attempts to perfect the local treatment of alopecia areata, insists that from a therapeutic point of view we must divide the pelades into two groups : viz, (*a*,) Those, which ordinarily circumscribed, get well easily by whatever process one employs, *e.g.*, vesicatories, acetic acid, iodized collodion, irritating plasters, etc. ; and (*b*,) Those ordinarily extensive, with numerous foci, or the variety called decalvans, which resist all medication or recur incessantly no matter what treatment they receive. Brocq notes that in the latter case seborrhœa of the scalp is often present, and should be treated by sulphur preparations at the same time that the alopecia is dealt with.

Prentiss, in an article on the physiological and therapeutical uses of **Pilocarpine,** devotes considerable space to a review of its action on the growth and colour of the hair. He states that this drug stimulates the growth of hair by increasing its nutrition through the hair bulb. There are two methods of administration, viz., long continued small doses by the stomach, and the rapid one by hypodermic injections of 1 centigramme made two or three times a week.

Seeger suggests that the hair should be brushed radially several times daily, the occipito-frontal muscle exercised, frictional electricity should be applied twice daily by means of a gutta percha plate (with an insulated handle) rubbed upon a dry cloth or piece of soft leather, and the nape of the neck stroked with a coarse bathing glove to stimulate the erectes pilorum. If parasitism is suspected we may further make once a week by means of cotton an application of ethereal oil of cloves, 5 drops, pure water of ammonia and pure glycerine, of each 80 minims, tincture of sabadilla, ℥j. To be washed off in fifteen to thirty minutes.

REFERENCES.—"Dermat. Assoc.," 16th Annual Meeting, 1892; Duhring, "Internat. Clinics," 1893; Hallopeau, "Bull. Génér. de Thérap.," May 8, 1893; Ferraton, "Lyon Méd.," April 9, 1893; Ehrmann, "Vienna Dermat. Soc."; Bellasera, "Revista de Cienc. Med. de Barcelona," p. 438, 1892; Brocq, "Journ. Cut. and Gen-Urin. Dis." 1893; Pattein, "Soc. de Thérap.," March 26, 1893; Massazza, "Giorn. ital. mal-vener," xxvii, 1893; P. Raymond, "Gaz. des Hôp.," Aug. 20, 1892; Seeger, "Wiener Klinik.," Dec., 1892 (quoted in "Med. News," Jan., 1893).

Synopsis.—(Vol. 1893, p. 74.) Chatelain uses **Iodised Collodion**, 1 in 30, every four or five days, together with **Epilation**. Tison does the same, and washes the scalp with **Mercury Bichloride Solution**. Morel-Lavallée **Scarifies** the patches superficially and applies **Pomade**, repeating this every five to eight days. Bulkley applies **Carbolic Acid** 95% solution, not treating more than two or three square inches at a sitting, and this may be repeated in two weeks or more. Moty injects 4 drops 4% solution **Mercury Bichloride** and 2% **Cocaine** around a patch, repeating it every four days, the number of injections depending on the size of the patch. Raymond considers that continuous excitation of skin is required: he shaves scalp, washes it with **Antiseptic Soap**, and in the morning applies ℞ Hydrarg. Bichlor. 0·5, Tinc. Canthar. 25·0, Bals. fioravante (French Codex) 50·0, Aqua Cologniensis 150·0, rubbing it into the patches with a stiff brush; at night he applies ℞ Salicylic Acid 2 parts, β Naphthol 10 parts, crystallizable Acetic Acid 15 parts, Castor Oil 100 parts. Busquet uses **Tincture of Cinnamon** locally. Ohmann-Dumesnil uses in the parasitic form a 1 in 750 solution **Mercuric Chloride** twice daily, and a general wash of 3% solution **Creolin** later. For the affected areas he applies **Sapo Viridis** for five minutes, then gentle scrubbing, finally rubbing in a little **Bichloride of Mercury Ointment** gr. j to **Lanolin** ℥j. In neurotic cases he vesicates with **Cantharidal Collodion**, but prefers Bulkley's **Carbolic Treatment**.

AMAUROSIS.

Synopsis.—(Vol. 1893, p. 9.) Cullen recommends **Anemonin**, average dose 5 drops.

AMENORRHŒA.

Carrière[1] states that far better results are obtained in the treatment of amenorrhœa in young girls by the combination of **Iron** with **Ergot** than are to be expected from iron alone.

Trousseau employed **Honey of Iron** with most excellent results. In some cases it is more advantageous to combine the iron, especially the tartrate of iron and potassium, with emmenagogues.

In cases where the amenorrhœa is caused by chlorosis, general hygienic treatment, with perhaps a change of climate, will often bring about the desired result. Or, if these fail, **Inhalations of Oxygen**, and **Massage** may be tried.

Of the emmenagogues only three are of any special value in these cases, namely, **Mugwort, Saffron**, and **Apiol**. Mugwort may be used in the form of an infusion, the strength being 5 grammes to a litre of water, 3 cupfuls to be taken during the day. **Saffron** can also be administered as an infusion, a few of the pistils to be added to a cup of boiling tea. Apiol should be given in gelatin capsules in doses of 25 centigrammes twice daily.

The question as to the time of administering emmenagogues is a simple one. Medication should be begun at least two days before the expected time, and should be continued for five or six days afterwards. This same plan of treatment should be repeated the following month. If at the third month the sickness should be at the regular time, medication should be discontinued.

Static Electricity is at times a stimulant, and at other times a sedative to the nervous system. It often acts as a powerful emmenagogue. Arthius and Larat claim that the electricity should be applied to the pelvis, limbs, and lower part of the abdomen. Ten or twelve applications are generally sufficient.

For irregular menstruation the preventive treatment of chlorosis, and care to avoid fatigue, are generally sufficient to regulate the flow, without the administration of the emmenagogues.

Cases of sudden arrest of the sickness from cold or emotional causes are best treated by warm **Foot-baths, Sinapisms** to the thighs, and the internal administration of **Bromide of Potassium, Valerian, Hot Punch**, etc.

REFERENCE. — [1] "Revue Médico-Chirurg. des Maladies des Femmes," Jan. 25, 1893.

Synopsis.—(Vol. 1893, p. 9.) **Anemonin**, average dose 5 drops. Probably more useful by chill than in primary cases.

ANÆMIA AND CHLOROSIS.

Dr. Smart[1] suggests the following anatomical and pathological diagnostic points in the three grades of anæmia: (1,) In symptomatic anæmia there exists a constant proportional relation between the number of red corpuscles and the amount of hæmoglobin. They diminish relatively during the course of the disease and increase

relatively during recovery, the iron being deficient as to the whole blood and each cell relatively ; (2,) In chlorosis the relation between the number of red corpuscles and the hæmoglobin is entirely broken. The hæmoglobin is markedly deficient relatively to each cell and to the whole blood. The low relative amount of hæmoglobin is the chief pathological determining feature in chlorosis and points to the low amount of iron, which in this type of the disease is *par excellence* to be regarded as the specific remedy in its treatment ; (3,) In pernicious anæmia the normal relation between the red cells and the hæmoglobin is also disturbed. The iron is in excess in each cell and also in proportion to the whole blood. The great diminution in the number of the red corpuscles and the relative excess of the hæmoglobin in relation to these and to the whole blood are the distinguishing features in this anæmia, so that, as chlorosis may be regarded as a hæmoglobin anæmia, pernicious anæmia may be viewed as a red corpuscular anæmia, that being the chief point of distinction between them.

TREATMENT.—Dr. Smart concludes that the chief preparations of **Iron** have the following order of value in the treatment of anæmia and chlorosis : (1,) Sulphate ; (2,) Carbonate (saccharine) ; (3,) Protochloride : (4,) Phosphate ; (5,) Protoxide. The sulphate is the best, and in anæmia combined with atonic dyspepsia with absence of hydrochloric acid, the iron is given shortly after meals, and **Ac. Hydrochlor.** dil. ♏15 to 25, just before meals. If acidity accompanies the dyspepsia, **Bicarbonate of Soda,** and **Carbonate of Potash,** āā gr. 10, should be substituted for the acid before meals, and will assist the tolerance of the iron. **Carbonate of Iron**, gr. 20 to 30, thrice daily, during or after meals is always well tolerated. The **Protochloride** should be given in very small doses at first to avoid nausea. **Phosphate of Iron** gave the best results in apparently neurotic cases.

Arsenic combined with iron—especially the sulphate—was found useful, but gave poor results when used alone, except in pernicious anæmia, when the excess of iron present in the blood contra-indicates the use of the latter ; but in these cases there is often marked intolerance of arsenic, and the initial dose should be very small. **Transfusion of Healthy Blood** is gaining favour in the treatment of pernicious anæmia, and in those cases which are accompanied by splenic enlargement quinine in the form of the **Nitrate of Iron** and **Quinine** should be employed in full doses.

Rieder[2] regards as pure chlorosis that form of anæmia : (1,) Which arises without obvious cause ; (2,) In which, apart from some dilatation of the heart, etc., there is no evidence of visceral disease ; and (3,) In

which the hæmoglobin of the blood is diminished and the number of red cells somewhat lessened. The author uses **Blaud's Pills** and **Albuminate of Iron** (Drees) in these cases.

Schultz [3] extols the use of **Sulphur** in chlorosis. He says that when iron is ineffective, sulphur improves the general condition, and afterwards the use of iron may be followed by good results. He uses **Flowers of Sulphur,** together with **Sugar of Milk,** the dose being as much as will cover the point of a penknife three times a day. Sulphur is contra-indicated by catarrh of the digestive organs.

Traugott [4] reports the successful treatment of fifteen cases of chloro-anæmia by means of **Hot-air Baths.** In all, a rapid and considerable increase in the percentage of hæmoglobin, as well as in the specific gravity of the blood and in the number of red corpuscles, was observed ; the irritability of the heart, the anæmic murmurs, the febrile attacks, and the neuralgic pains grew less ; the appetite returned ; the bodily weight increased ; menstruation was resumed ; and all of the symptoms gradually subsided. In spite of the profused perspiration, and although the quantity of fluids taken was not increased, diuresis was augmented. In one of the cases the good effect of the treatment appeared to be enhanced by an extraction of blood. In individual cases, from nineteen to forty-two baths were required. The length of the stay in the hospital varied from thirty-three to eighty-four days. The baths were given by surrounding the bed of the patient with barrel-hoops, over which was suspended oil-cloth, while the patient was well wrapped except about the head. At the foot of the bed was placed a wooden box lined with zinc, in which several spirit lamps were made to burn. The temperature of the first bath may be as high as 131°, of the subsequent baths from 140° to 152°. In the course of the bath an ice-bag is to be applied to the head.

REFERENCE.—[1]Smart, "Lancet," Feb. 25, 1893 ; [2]"Münch. med. Woch.," March 21, 1893 ; [3]Schultz, "Berlin. med. Woch." ; [4]"Medical Record," Jan. 20, 1893.

Anæmia (Pernicious).

Transfusion in Pernicious Anæmia.—Dr. D. J. Brackenridge,[1] writing on the transfusion of human blood in the treatment of pernicious anæmia, sums up his conclusions as follows : (1,) If all the necessary precautions are strictly adhered to, the operation is perfectly safe ; (2,) Quite healthy blood with living blood corpuscles can be added to the diseased blood of the patient ; (3,) This blood exerts a beneficial influence both on the blood with which it is mixed, and on the blood-forming organs. Sooner or later the abnormal peculiarities in the forms and the exceptional varieties of the corpuscles disappear ;

and sooner or later the blood corpuscles begin to increase in excess of those added by the transfusions. These facts are opposed to the view that an abnormal destructive activity of a disordered liver is the only or the main pathological condition in pernicious anæmia; for it is difficult, were this true, to understand how the blood corpuscles added should not soon fall victims to the destructive influence of the liver cells.

Dr. G. A. Gibson[2] advocates the treatment of pernicious anæmia by intestinal antisepsis, basing his method upon the belief of Hunter, that the disease is due to excessive hæmolysis. He employs **Beta-Naphthol,** and in a number of cases in which he believed a septic condition of the intestines existed, a great increase of the number of red blood corpuscles took place under its use. The dose employed was 2 grains three times a day after food, together with 1 of the **Bismuth Salts**—preferably the **Salicylate**—in combination. No change was made in the surroundings, food or occupation of the patients.

A Chalybeate Lemonade[3]*:—*

℞ Tincturæ Ferri Perchloridi	℥iv	Tincturæ Limonis	℥ij
Acidi Phosphorici dilut.	℥iv	Syrupi simplicis ad	℥vj

Sig.—2 teaspoonfuls of the syrup in a small tumblerful of water after meals.

For Anæmia with Constipation[4]*:—*

℞ Extracti Nucis Vomicæ	gr. ¼	Pulveris Myrrhæ	gr. ½
Ferri Sulphatis exsiccatæ,	gr. j	Pulveris Ipecacuanhæ	gr. ½
Aloin	gr. ¼	Extracti Gentianæ	gr. ij

Misce, et fiat pilula. To be taken every night.

A Method of rendering Iron Digestible and Assimilable (Ewald, "Digestive Disorders"):—

℞ Tinct. Ferri. Perchlor.	℥j	Aq. Albuminosæ (*i.e.*, White of Egg 1 part, Water 5 parts)	℥vj

M. Ft. sol.

REFERENCES.—[1] "Pract.," Dec., 1892; [2] "Edin. Med. Jour.," Nov., 1892; [3] "Pract.," April, 1893; [4] Ibid., Feb., 1893.

Synopsis.—(Vol. 1893, pp. 17, 31, 39, 468.) **Arsenite of Copper** $\frac{1}{60}$ to $\frac{1}{20}$ gr., after meals; specially useful in improving digestion. **Ferrum Peptonate** a syringeful of a 1 in 10 watery solution given hypodermically every second day, or **Ferrum Oleate** diluted to 1 to 20 **Olive Oil**, and used similarly; the peptonate is preferable and the method will often succeed when iron is not borne by the stomach. **Oxygen Inhalations.**

Spinal Anæmia (syphilitic). **Forced Feeding** by small quantities of **Concentrated Food** every two hours by day, and three hours by night, until at least ten pounds in weight is gained; 3 to 4 ounces whiskey in twenty-four hours in early stages. When digestion begins to improve **Iodide of Potassium** saturated solution, 5 drop doses, well diluted, may be given after meals, increased to 10 drops if well borne; if not add 30 drops **Sp.**

Ammon. Aromat. to each dose. Use **Iodides** for six months, and then **Mercury** in tonic doses for another six months. **Strychnine** and **Phosphorus** as nerve tonics are specially indicated, the former hypodermically, gr. $\frac{1}{10}$ thrice daily, and later by the mouth. Iron is not well borne at first, but later **Reduced Iron** is useful. Hypnotics are injurious. **Massage** at bedtime will often induce sleep. **Rest Spine** absolutely by wearing a leather jacket for three or four months. **Suspension** is useful, performed daily for thirty seconds at first, gradually increased to five minutes. **Spinal Ice-bag** applied for twenty minutes to an hour for lumbar pain and atonic impotence. **Opium** for bone pains; avoid chloral and bromides. **Daily Exercise** when strength admits of it.

ANÆSTHESIA.

Vomiting during anæsthesia may be arrested by compression of the phrenic nerve and vagus. Dr. Joos, of the Cantonal Hospital, at Winterthur, applies compression with the thumb on the left side, immediately above the sternal end of the clavicle. The hand is held flat on the thorax, and the thumb is parallel with the clavicle. In Dr. Joos's experience the vomiting and hiccough forthwith cease. He also suggests that this treatment might be useful for the relief of sea-sickness.

Nausea is said to be promptly relieved by a mixture of 4 drops of **Creasote** in 2 ounces of **Lime-water.** Dose: A teaspoonful every fifteen minutes.

REFERENCE.—"Med. Record," Sept. 2, 1893.

ANASARCA. (See also "Ascites.")

Arnemann discusses the value of **Deep Incisions** into the subcutaneous tissues in general dropsy, and quotes a case where it was of the greatest benefit. The patient, a man of sixty-three years of age, suffered for some years from Bright's disease—probably the contracting form. He had several times had great œdema of the legs, which was reduced by rest in bed, diuretics, etc. In the early part of 1890 he became water-logged, and in spite of various remedies was rapidly worse. He was cyanotic, with intense dyspnœa. The pulse was irregular; the urine in abeyance. Under these circumstances extensive incisions were made in the skin. They were carried right through the whole depth of the enormously œdematous skin, and each measured about one inch and a quarter in length. Serum began immediately to flow, and the patient to breathe better, and later on to lie down. The fluid flowed uninterruptedly, in such quantity that repeated changes of towels were of little use. It ran through the bed on to the floor and out into the neighbouring room. The relief was very striking, an amendment beginning at once, and reminding one of the relief afforded when an empyema is evacuated. The procedure

adopted in this instance with such success was to make a few incisions, not more than eight, but these were large, the skin and subcutaneous tissue being divided so that a free exit was provided for the pent-up serum.

REFERENCE.—"Therap. Monats.," No. 10, 1892; "Pract.," April, 1893.

ANEURISM.

Hempeln[1] first refers to the difficulty of diagnosis of aneurism, and says that, according to present views, hæmoptysis due to the (internal) perforation of the sac is a rapidly fatal event. He maintains that premonitory hæmorrhages from such a perforation are not infrequent. Hæmoptysis in the course of aneurism may be: (1,) Independent of the aneurism; (2,) Indirectly dependent on it; or (3,) Due to perforation into the air passages. Pulmonary infarction comes under the second heading, and the author says that tubercle not very infrequently develops in the lung as a consequence of aneurism. He does not think that any pressure likely to be exerted on the pulmonary veins would produce such engorgement as to give rise to hæmorrhage. In this group hæmoptysis due to arteriosclerosis and interstitial nephritis must also be reckoned, as the aneurism and the vascular disease often own a common cause.

Clinically a slight hæmoptysis, lasting for months, as in the third case, could only be due to infarcts or new growth. There was no evidence, either during life or after death, of such lesions. The author says that continued hæmoptysis in aneurism would appear to be not very infrequently caused by perforation, and less often by infarcts, as in two of his cases. Thus hæmorrhage from these aneurisms may be: (1,) Profuse and quickly ending in death; or (2,) Continued, premonitory, and lasting days, weeks, months, or even possibly years before death. The diagnosis in the second form of hæmoptysis may be very difficult.

Molson[2] calls attention to the difficulties attending the recognition of aneurism situated below the arch of the aorta. It is a very rare affection. Before a pulsating tumour points inevitably to the disease, there are but few symptoms to call the attention of the physician to the condition. Of these the author cites pain and a brassy laryngeal cough. Sometimes there may be dyspnœa, palpitation, and stridor, and in some parts of the chest evidence of abnormal conditions, as weakened breathing, diminished vocal resonance and fremitus, and sonorous and sibilant rhonchi.

Dr. Newton Pitt[3] has observed alleviation of all the main symptoms of thoracic aneurism from **Venesection,** but would not advise it as part

of a routine treatment, although some of the aneurisms diminished markedly in size after three or four abstractions of blood.

It is the treatment above all others for the relief of the paroxysmal attacks of urgent and intense dyspnœa, which often form the most distressing feature in these cases ; there is no other which is capable of producing so marked and immediate an improvement.

Bromides, morphia, aconite, and the inhalation of nitrite of amyl or of chloroform, will relieve many of the attacks, but even when all these have failed, a venesection may be at once efficient. Laryngotomy in such cases is of no value, as the obstruction is not due to the paralysis of one vocal cord, but is largely produced by the compression of the trachea by the aneurismal sac ; with the loss of the blood by venesection, the aneurism may be observed to pulsate less vigorously, and the pressure on the tube is thus diminished.

The results are even more striking in the more severe conditions, where the patients have become unconscious, comatose and moribund. After a few ounces of blood have been taken away, they generally recovered consciousness, and the urgent symptoms not infrequently pass off, and generally no other treatment is of any value.

REFERENCES.—[1] Hempeln, "Berlin. klin Woch.," Oct 3, 1892 ; [2] "Montreal Med. Journ.," March, 1892 ; [3] Pitt, "Med. Press & Circ.," May 10, 1893.

ANGINA PECTORIS.

Dr. Burney Yeo, in an exhaustive paper concludes that the true indications for treatment in angina pectoris, may be thus summarized : (1,) To maintain or improve, when defective, the general nutrition ; to avoid all strain, physical and emotional ; and so to relieve cardiac feebleness and excessive effort ; (2,) To relieve dyspeptic conditions and flatulent or fæcal distension of the stomach and intestines ; (3,) To forbid the habitual consumption of agents which may exercise a toxic action on the heart, such as tea, coffee, tobacco, alcohol, etc., or that may introduce or develop toxines in the alimentary canal ; (4,) To avoid and remove all gouty and other blood contaminations ; (5,) To give such tonic remedies as may improve the cardiac tone and lessen existing tendencies to cardio-vascular degeneration ; (6,) To relieve the paroxysmal attacks by sedatives and stimulants.

An almost exclusive **Milk Diet** will be found to be of great service in many cases. When the digestive powers are greatly weakened, it may be necessary to have recourse to pre-digested foods, or to give with the food some artificial digestive agent, such as a trustworthy preparation of pepsin or pancreatin. I have found a wine-glassful of cream mixed with the same quantity of hot water, and a teaspoonful of

sal volatile added, to be an excellent food on getting up in the morning The lighter kinds of fish—soles, whiting, flounders, etc.—simply grilled, and eaten with a squeeze of lemon and plain uncooked butter, are excellent ; lightly boiled or poached eggs are permissible, if there is no gouty tendency ; and also good *consommé*, flavoured with vegetables ; the lean of fresh meat passed twice or three times through a mincing machine, and then lightly cooked in a *bain-marie*, is most digestible and nourishing, and of great value when there is masticatory difficulty, as is so often the case ; fresh vegetables in the form of *purées* are useful, and so is the pulp of cooked fruits, as affording the necessary variety in the food and promoting the action of the bowels. Light milk puddings are also commendable. We should, moreover, see that a sufficient quantity of pure water is consumed, for eliminative as well as assimilative purposes.

The co-existence of dyspeptic states must be treated in accordance with general principles—an alkaline bitter stomachic, composed of **Sodium Bicarbonate, Nux Vomica,** and **Calumba,** an hour before the two principal meals, will be found valuable. Or in other cases a dose of dilute **Hydrochloric Acid** in compound infusion of **Orange Peel** after food, with or without the addition of a few grains of pepsin, may be given. Flatulent distension during digestion will often be effectually relieved by a pill containing a grain of **Thymol** or a drop of **Creasote** taken directly after food. Regular evacuation of the bowels of fæcal accumulations is most essential—checking, as it does, the formation of injurious toxines in the intestine, eliminating waste substances, and relieving abdominal distension. For some persons the best aperient is a dinner pill, containing 1 or 2 grains of **Aloes,** ½ a grain of powdered **Ipecacuanha,** 1 grain of **Nux Vomica** powder, and 1 grain of **Soap ;** this may be taken directly before or after dinner. Should such a pill prove insufficient, it may be followed occasionally by a teaspoonful of Carlsbad or Homburg salts in half a tumblerful of hot water the next morning. In cases where there is sluggishness of liver, with bile-stained conjunctivæ, a few grains of **Blue Pill,** or ⅛ or ¼ of a grain of **Podophyllin** at bedtime, with 2 or 3 grains of **Compound Rhubarb Pill,** may take the place of the dinner pill.

In anæmic cases and cases of temporary cardiac debility from removable malnutrition, we shall find the milder preparations of **Iron,** combined with small doses of **Digitalis,** of great service. In other cases we shall find **Arsenic** of greater value than iron ; and here, again, there is a general consensus amongst experienced physicians as to the value of arsenic in the treatment of cases of angina pectoris in the intervals between the paroxysms. Balfour asserts that arsenic is

"indispensable in all forms of weak heart accompanied by pain." He advises that it should be given in the form of **Fowler's Solution,** 3 to 5 minims, combined with **Iron** and **Strychnine,** twice a day, after food. We cannot too strongly insist on the value of strychnine as a cardiac tonic, especially in remediable states of cardiac asthenia. In highly neurotic cases much benefit may be derived from a combination of **Iron** or **Arsenic** and **Potassium** or **Sodium Bromide,** in 5 to 15-grain doses; and in the same class of cases the **Valerianate of Zinc** is also of great service; it may be given in grain doses in a coated pill thrice daily, after food; and sometimes the combination of $\frac{1}{60}$ of a grain of **Phosphorus** with it renders it a more valuable nerve-tonic.

I have already pointed out the usefulness of digitalis in the milder cases; and I have seen long periods of immunity from attacks apparently brought about by occasional recourse to a mild iron tonic, with 5-minim doses of tincture of digitalis, or a pilule of **Nativelle's Digitaline** ($\frac{1}{100}$th gr.). The idea of giving a combination of nitro-glycerine and digitalis during the intervals is a concession to the vaso-motor hypothesis of the mode of causation of the attack.

Obvious signs of cardio-vascular degeneration and gout indicate **Potassium Iodide,** which may be given in 5 to 15-grain doses three times a day.

In cases traceable to *malarial* intoxication, if arsenic fails to relieve, **Quinine** should certainly be given; but in such cases evidence of arterio-sclerosis will usually be present, and will indicate the use of **Potassium Iodide.** It has recently been stated that **Cocaine,** in doses of $\frac{1}{3}$ of a grain, thrice daily, has the power of entirely preventing attacks of angina.

Huchard considers the use of the following as dangerous or ineffective: electricity, cocaine, bleeding, bromides, hypnotics, oxygen inhalations, belladonna, aconite. On account of the tendency of sodium nitrite to change hæmoglobin into methæmoglobin, he does not advise its use.

REFERENCE.—"Practitioner," Feb., 1893.

ANTHRAX.

Dr. A. Strisover[1] advises the following points to be adhered to in injecting **Carbolic Acid** for the treatment of this disease. The syringe should be inserted so that the point corresponds exactly with the centre of the ulcer where the skin is mortified. Eight to ten syringefuls of carbolic acid lotion (3 per cent.) are then injected. The cannula is withdrawn to fill the syringe, and the needle left *in situ.*

Adopting this method, the author has not had a single fatal case out of sixty treated by him.

REFERENCES.—[1] "Med. Obozr.," xxxix, No. 2, p. 180 and 181, 1893; "Nouveaux Remèdes," Aug. 8, 1893.

ANUS (Fissure of).

Adler advises use of bland unirritating diet; avoidance of drastic purges; mild aperients or enemata of warm water or ½ a pint to 1 pint of rich flax seed tea, used preferably at night and repeated in half an hour if not effective. To relieve spasm of sphincter, the following suppository may be introduced half an hour before using the enema :—

℞ Ext. Belladonnæ gr. ⅛ to ½ | Ol. Theobrom. gr. 10
Cocainæ Hydrochlor. gr. ¼ to ½ |
M. et ft. Suppos.

Or the following ointment, as advised by Cripps :—

℞ Ext. Conii ℥ij | Ung. Lanolini q.s. ad ℥ij
Ol. Ricini ℥iij | M.

Smear a small quantity over the parts five minutes before a motion is expected, and again after it has taken place.

In adopting palliatives rigid cleanliness is most important. **Nitrate of Silver, Acid Nitrate of Mercury, Fuming Nitric Acid, Carbolic Acid, Sulphate of Copper** and the **Actual Cautery**, are all advocated, but the **Nitrate of Silver** is best and is used in a solution of 10 to 30 grains to the ounce, and applied once in twenty-four or forty-eight hours. A 4 per cent. solution **Cocaine Hydrochlorate** should be applied as a preliminary to any of these caustics, but if any ointment has been used for the fissure, it must first be removed by a hot douche to allow of the cocaine exerting its action. After applying nitrate of silver, smear the part with **Iodoform Ointment,** 30 grains to the ounce, disguising its odour by a few drops of attar of roses, or **Iodol** may be substituted for iodoform. The daily introduction of a full-sized bougie of wax or tallow is often useful on account of the stretching of the sphincter, but **Cocaine** or **Belladonna Ointment** should be previously used.

The operative measures are—forcible dilatation, incision or dilatation, and incision combined, and the last is probably the most certain. Subcutaneous division of the sphincter is not advised; it is painful, uncertain, and may be followed by abscesses.

REFERENCE.—"Medical News," Oct. 15, 1892.

APPENDICITIS. *Gilbert Barling, M.B., F.R.C.S.*

The term appendicitis has now come into almost general use for the inflammatory conditions in the right iliac fossa which were formerly titled typhlitis and peri-typhlitis.

PLATE I.

Fig. A.

Fig. A.—Appendix strictured at A. and distended with mucus. Perforation at B. From a relapsing case ending acutely with peritonitis.

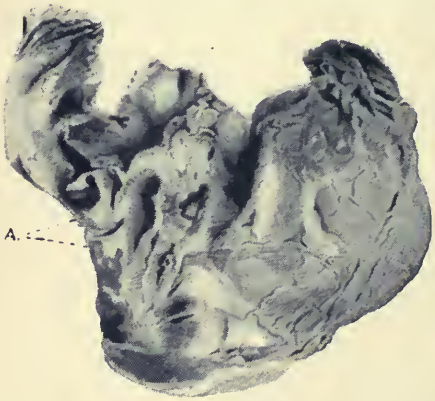


Fig. B.

Fig. B.—Appendix firmly tied down to back of cæcum, doubled upon itself, and pertorated at A. Death from acute peritonitis

Fig. C.

Fig. C.—Appendix distended with large fæcal concretion at A. Old adhesion around.

The change of name has arisen out of a more exact knowledge of the pathology of the disease, which shows that in a very large majority of cases the inflammatory process has, as its starting point, some change in the vermiform appendix. These changes comprise the retention within the appendix of fæcal concretions (*Plate I., Fig. C.*), or foreign bodies, and the retention within its cavity of the secretion from its mucous lining, owing to the obstruction of its communication with the cæcum (*Fig. A*). Distortion of the appendix by adhesions contorting it, and its fixation behind the cæcum (*Fig. B.*), or in certain peritoneal pouches near, also contribute to disable it from ridding itself of its contents, and so promote further inflammatory changes. I have often noticed that an attack of indigestion from improper food has been the immediate precursor of the local trouble.

Although appendicitis varies greatly in its intensity, and its prognosis and treatment, there are certain features generally to be recognized in all cases. These may be summed up under the two heads, general and local :—

(1,) *General Symptoms.*—The attack is usually ushered in with vomiting, but as soon as the patient is placed in bed and properly dieted, etc., this may be expected to subside. It can easily be reproduced by want of care in the management of the patient, and in the acute and most severe cases is difficult to control occasionally. Persistent vomiting I regard as a symptom of extreme gravity which points to the need, unless contradicted by other features, for immediate operation.

Fever is always present at the commencement of the illness, even in what are presently to be described as the mild cases, and it ranges from 100° to 103°F. in the early stage. Under treatment it subsides in a day or two to normal or nearly so in the mild cases ; in others it may assume a regular hectic type, and in a few it may remain constantly high, in which case it is of serious significance. The question of temperature will be referred to more fully later.

With the fever there is of course quick pulse, but a point of importance is that in some cases it may be unduly quick in proportion to the temperature.

Rigor is exceptional even when a large collection of pus exists. The tongue is heavily coated with a yellowish white fur. The bowels are nearly always constipated, but I have known diarrhœa instead of constipation. The swelling found in the iliac fossa has been regarded as a fæcal collection, but this is certainly very unusual, and it is due rather to inflammatory infiltration of the peritoneum, the walls of the appendix and intestine, and of the abdominal wall.

The facial expression is worthy of careful attention. In the early stage in most patients it is suggestive of pain, and in the more acute cases this is especially so. If the face expresses much pain on the third or fourth day of the attack, the patient being in bed and properly treated, taken in conjunction with severe local tenderness and other symptoms, it is often of value in pointing to the necessity for operative interference. Beyond this facial expression of mere pain there is the classical pinched face of peritonitis, and in a few cases the face is grey or earthy in appearance, this perhaps when marked septicity exists.

(2,) *Local Signs and Symptoms.*—Pain in the abdomen is a constant factor, and in the early stage it may be in any part of the abdomen. Later, however, I have always found it localized in the right iliac region, or at all events having its greatest intensity there. Next to pain in order of frequency, I should place tenderness over the site of the appendix. This may be over a very limited area, on a line from the right anterior spine to the umbilicus, but the tenderness is generally much more extensive, spreading over a space the size of one's palm. The more extreme the pain and tenderness, the graver the case.

A distinct tumour is usually to be felt. Its position varies somewhat, extending in some cases as low as Poupart's ligament, at others upwards and outwards towards the right lumbar region into the part occupied by peri-nephritic abscess. In one of my cases the tumour extended a little beyond the middle line of the abdomen. Generally, however, its surface is not more than two to three inches square. A tumour is not to be felt in some acute cases because of the tenderness preventing complete examination, but even under anæsthesia I have found that in a few cases, and these amongst the most anxious and severe, no tumour can be felt. Its absence then must not be taken as negativing the existence of appendicitis.

The evidences of suppuration, viz: fluctuation, and redness and œdema of the skin over the inflamed area, may be absent when pus exists, and it is quite unusual in my experience to get the feeling of fluctuation unless one has waited a dangerous time. The abscess will have been recognized by other indications, and will have been evacuated ere this sign of its presence can be made out. Nor should redness of the skin be waited for. Œdema, by careful examination with the tip of the finger, is more often to be recognized, and if present is a valuable sign. Its absence however by no means contra-indicates the presence of pus.

Another local sign sometimes present, which has not received the attention it deserves, is interference with the function of mictu-

rition. In one relapsing case, I was called to see the patient because he was suffering from retention of urine which was not due to any mechanical obstacle. Quite often there is complaint of pain when the bladder becomes distended and a dread of emptying it because of the pain then caused by the contracting organ. In one patient the pain and frequency of micturition was the chief cause of complaint.

General distension of the abdomen, associated with tenderness, has its usual dread significance of peritonitis, and in cases under observation should never be awaited but should be anticipated by operation as soon as there is suspicion of distension spreading from the right iliac region.

So far I have described the signs and symptoms of appendicitis in general. The disease is so variable, however, in its severity and danger, that it is absolutely necessary to classify the cases into several groups. My classification is clinical rather than pathological, my aim being to group together the case with similar features and requiring similar treatment. Any classification is open to criticism, but no confusion is likely to arise if it is borne in mind that there is a certain amount of overlapping of the various groups, cases presenting themselves which are on the border line of two groups, and it is doubtful to which they should be assigned.

The classification is as follows :—

Class I.—Mild Appendicitis.

Class II.—Appendicitis with distinct Abscess Formation.

Class III.—Acute Perforating Appendicitis.

Class IV.—Relapsing Appendicitis.

I propose to describe briefly the features of these groups and the treatment appropriate to each.

Class I. *Mild Appendicitis.*—A majority of all the cases of appendicitis belong to this class. Under proper treatment they recover completely without operative interference. Perforation and suppuration are absent, and relapse occurs only rarely, and then may be due to insufficient rest. The chief features of the mild cases are that the initial symptoms of vomiting, pain and tenderness are mild in degree ; under treatment they soon show improvement, and the temperature, although it may be 102° or more at the commencement, in a couple of days remains below 100°, and may be normal, whilst the mass in the iliac fossa does not extend, but on the contrary diminishes and disappears ; the face does not convey the impression of severe illness which is to be seen in Classes II. and III.

Treatment.—The treatment about to be described is applicable not only to this class but in a great degree to the other varieties, and

therefore will not need repetition. The first principle is rest in bed, and absolute recumbency should be insisted upon. The diet should be a fluid one, easily digested, and, should vomiting be troublesome, nourishment should be administered by the rectum, and not by the mouth. The bowels should be evacuated with as little disturbance as possible, and that is usually obtained by the administration of a simple enema daily. Locally, either cold or warm applications may be used, and one of the cleanliest ways of doing this is by means of **Leiter's Coil.** Cold sometimes causes increase in pain, and if it does,

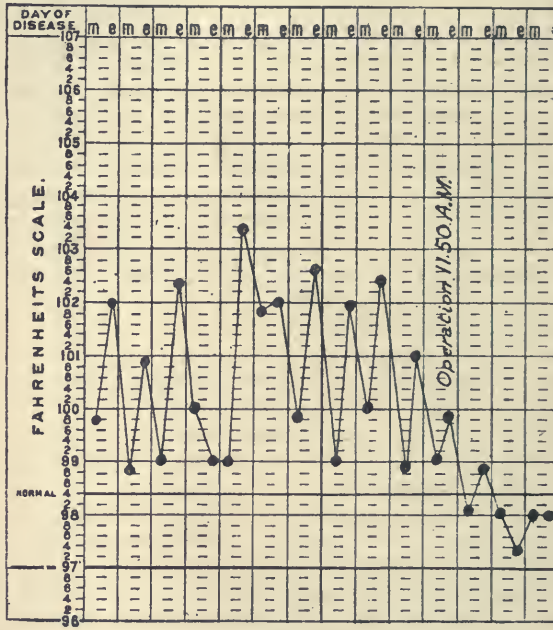


Fig. 1.

I apply warmth instead. I find four to six **Leeches** applied over the most painful spot often give great relief. Rest should be insisted on until the swelling and tenderness have entirely disappeared, otherwise recrudescence (rather than relapse) will occur.

CLASS II. *Appendicitis with Abscess Formation.*—This group supplies most of the cases upon which I have operated. If such are not dealt with by operation, the risk to life is considerable; the pus may

burst into the peritoneal cavity, into the bladder or some part of the alimentary canal, or it may burrow and extensively undermine the skin or even find its way into the thorax. Operation properly carried out is nearly always followed by recovery, and I may say here, what is true of all cases of appendicitis, that where there is doubt as to the question of operative interference it is better to operate, as involving the patient in less danger than delay.

For the recognition of abscess formation I rely partly upon the general, and partly upon the local condition. Assuming that the treatment has been carried out on the lines mentioned under Class I., and that the temperature still keeps elevated or becomes of the hectic type, as in *Fig.* 1, that the face gives the impression of suffering, that the local tenderness is marked and increasing, and that the mass in the right iliac fossa is increasing, or at least is not diminishing, and especially if the finger tip recognizes slight local œdema, I should wait for no further sign of pus, but should at once proceed to operate. In the more acute cases of this group, where abscess may be formed in a few days, no tumour may be felt even under anæsthesia. *Fig.* 2 is taken from such a case, in which six ounces of pus were evacuated on the sixth day of the illness.

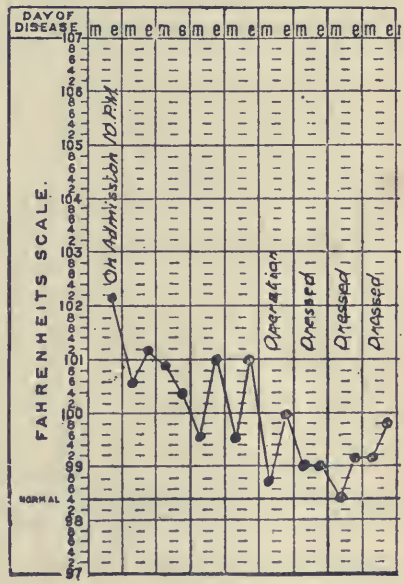


Fig. 2.

Operation.—The incision should be directly over the most prominent part of the swelling, or if there be none recognizable, about the right semi-lunar line. The deeper tissues will often be found œdematous and infiltrated, and through this it is not possible always to recognize the various layers as they are cut through, and the operator may suddenly find the pus welling up under his fingers. The cavity should be gently examined for the appendix. It is not as a rule to be recognized in these cases. If it is, and it is free in the cavity, or can easily be separated, it should be ligatured at its base a little

distance from the cæcum and snipped off, but if it is not easily removed it should be left alone with the confidence that the incision will heal even if a sinus be left for a time. The cavity should be gently irrigated and an india-rubber drainage tube should be inserted, the incision being narrowed by a suture or not according to its extent. In two cases I have made a counter opening in the loin, the original opening being closed, and I recommend this course in those cases where the abscess extends above the iliac crest.

CLASS III. *Acute Perforating Appendicitis.*—The recognition of this condition is most important, as the chief mortality of appendicitis is due to it. Here there is but little protective adhesion around the appendix, and it opens directly into the peritoneal cavity, or a small purulent collection around it does so, giving rise to a severe septic peritonitis. The object of treatment should be to forestall the peritonitis by operation, for once it is established operation fails to cure in a large majority of cases. The attack commences acutely with vomiting, perhaps a rigor, and with extreme pain, which is often at first diffused, but eventually becomes localized to the right iliac fossa. The muscular resistance is so great that a tumour if present may be missed, but there may be no tumour to be palpated even when the patient is anæsthetised. Tenderness is very acute, and McBurney's point, two inches from the right anterior spine of the ilium on a line from it to the umbilicus, fairly marks its greatest intensity.

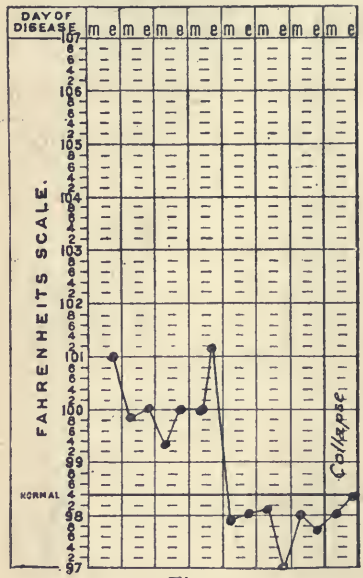


Fig. 3.

The temperature is at first 102° or more, and generally remains high; the pulse is quick, even out of proportion to the temperature, whilst the patient's face expresses pain and shock. If under treatment the extreme pain and tenderness remain, and especially if they increase and there is still vomiting, high temperature and quick pulse, I advise operation forthwith, even though forty-eight hours have not

elapsed since the initial symptoms. A sudden intense attack of pain may be indicative of perforation, and the need for interference is most urgent if, with such a sudden increase of pain, there be commencing distension of the abdomen. It is important to warn the patient against sitting up or turning about in bed. The bowels I prefer to leave undisturbed, either by purgatives or enemata, in these very acute cases. It is necessary to give a word of warning as to the temperature. It is usually high, but the absence of fever must not be held to contra-indicate operation if the other signs are in favour of it. *Fig.* 3 is from an acute perforating case, and three days after the temperature fell to normal perforation took place with immediate collapse.

Operation having been decided on, an incision is made directly over the appendix, with the knowledge that there will probably be no adhesion to the anterior wall of the abdomen, and that the general peritoneal cavity will be opened. An incision two inches and a half long is sufficient, unless the patient is stout, and it should be in the semi-lunar line, with its centre about corresponding to McBurney's point. The only instruments needed, in addition to those required for an ordinary abdominal section, are good broad retractors and an aneurism needle threaded with silk. When the abdomen is opened, the cæcum presents, and the fingers must be passed down its inner side in search of the appendix. Before this is reached it is quite possible that a small collection of fœtid pus may be liberated. If so, this should at once be carefully sponged away, the inner margin of the wound being so retracted that if possible the operator may see what he is doing. The search for the appendix is then continued. It may be quite free, or it may be the centre of the cavity already evacuated, or it may be thickened, distorted, and adherent.

If it cannot be located, the anterior longitudinal band on the cæcum is a very reliable guide to it. The appendix being found, if it is free or only moderately adherent, and shows evidence of distension, thickening, or concretion, it should be removed. This may be done by transfixing the little mesentery of the appendix with the aneurism needle threaded with silk, tying one half round the base of the appendix, the other round its mesentery, the appendix being then snipped off with scissors. If the appendix is firmly bound down, the best plan is to leave it, and trust to drainage alone. Sponge should be used for cleaning away pus or the contents of the appendix, irrigation being avoided.

There are still advocates for exploration by median abdominal incision. Everything is so much in favour of the lateral one when

the cæcal region is clearly the starting-point of the mischief, that the median opening appears to me only justifiable under two conditions: (1,) When the diagnosis is not clear, the operation being really an exploration; and (2,) When general peritonitis exists, the formation of a median opening (in addition to the lateral one) for flushing and drainage, adding to the patient's chance of recovery.

CLASS IV. *Relapsing Appendicitis.*—A certain number of patients, after apparent recovery from appendicitis, become the subjects of future attacks of varying severity and at variable intervals of time. These recurrences may be very numerous, and may be spread over many years. I have just operated upon a man sixty-one years of age who has had more than a dozen attacks during the last twenty years, the last but one being four years ago. In the last attack suppuration occurred. Apart from the loss of time and other inconveniences of numerous acute attacks or relapses, there is actual danger that perforation of the appendix or rupture of an abscess may take place with the usual serious or fatal consequences. It is unnecessary to describe a relapsing case in detail. It consists of a series of attacks of appendicitis of mild severity generally, but not always, the intervals between being periods of more or less complete restoration to health. In not a few cases, from want of sufficient rest, the first inflammatory attack has never completely cleared up, and recrudescence would be a more correct designation than relapse.

TREATMENT.—The usual general treatment sketched out under Class I. is applicable here, but if a relapsing case is to be cured without operation, and this certainly is possible, the period of rest may need to be very prolonged, even to several months, the patient being kept in bed until all pain, tenderness, and thickening have disappeared. Want of precaution in this direction is, I am satisfied, responsible for much after trouble and anxiety. If a case presents itself which does not clear up with long rest, dieting, enemata and blistering, then it is right to remove the focus of disease by operation, and this is done with most security during a period of quiescence from acute symptoms. It may be, as happened in a case to which I have referred, that operation has to be done for abscess. If it is, the lines laid down for operation under Class II. should be followed. The purpose of operation in relapsing cases during a period of quiescence is to remove the appendix, and the details of the operation are similar to those described under Class III., where the operation is done for threatened or actual perforation. The appendix may be difficult to find; in a few cases it cannot be identified. Generally the appendix can be found, and its removal effected without difficulty. In a minority of cases,

however, the amount of adhesion and thickening is so great that the appendix is only separated with the greatest trouble and difficulty. In a few cases it may really be impossible to find the appendix, and the search has to be abandoned. Notwithstanding these difficulties operation for relapsing appendicitis is one of small mortality, and gives very good results.

APPENDICITIS. (Second Article.) *Wm. T. Bull, M.D., New York.*

In a comment on the present state of knowledge regarding this affection, and the progress which has been made during the past year, it is impossible to avoid reference to its great importance, for of the various affections of the abdominal viscera, perhaps not one presents such a multiplicity of phases, or is able to pursue such a simple or such a treacherous course.

The symptoms in the acute forms vary greatly. An attack usually commences with sudden pain, this perhaps in the umbilical region, radiating thence over the abdomen, and gradually becoming localized in the right iliac fossa; or the pain may be in the latter situation from the commencement. At the beginning of an attack there is apt to be vomiting. This may be limited to a single occurrence, or may be continued with greater or less frequency. The temperature is elevated, the pulse is accelerated. There is at times constipation, there may be diarrhœa.

There is generally tenderness somewhere in the right iliac fossa. though the exact point is by no means constant. There may be simply a sense of resistance on deep palpation, there may be a distinct tumefaction. These symptoms have been so frequently described, during the past few years, that it seems quite needless to again rehearse them here. I would, however, note their *variability* and say, that in any acute abdominal condition the appendix may with propriety be given careful consideration.

Unfortunately there is as yet no consensus ot opinion regarding the exact line of treatment to be pursued in these acute cases. Some—physicians for the most part—are for delaying surgical measures until an abscess is apparent, or a peritonitis has declared itself. Happily the number who thus temporize is constantly growing smaller. Here, in New York, the physicians are rapidly awakening to the extreme importance of these cases.

On the other hand, some surgeons go to the extremity of saying that all cases must be subjected to operation as soon as the diagnosis of appendicitis is assured.

I believe that every case must be decided on its own merits—no hard and fast rules for or against operation can be followed.

It is an undeniable fact that a very great many cases go on to speedy resolution and are free from subsequent attacks. The exact proportion of these cannot be stated, nor can we say with certainty that a given case will so terminate. If, in general, the acute symptoms fail to show a tendency to subside after twenty-four or thirty-six hours, prompt operative procedure will offer the best prospects.

But it must not be forgotten that certain cases—*per*acute, perhaps they may be called—exhibit most severe symptoms from the very onset—excruciating pain, marked rigidity of the rectus muscle, rapid abdominal distension, and other evidences of perforation. Such may require immediate exploration, though unfortunately we are not as yet in the possession of *data* which can guide us with certainty. In cases which present urgent symptoms operation will, in the majority of instances, prove less hazardous than delay.

Those cases which are already in condition of general peritonitis, when first seen by the surgeon, may be given the chance afforded by operation, if the general condition of the patient warrants any hope—that is, if marked collapse be not yet present. I have myself operated successfully on a boy of eighteen years who presented the typical picture of general suppurative peritonitis.

The lad had been acutely ill for four days, his abdomen was markedly distended and exquisitely tender, rigid and tympanitic, the temperature was 104° F., the pulse was 120, the extremities cold.

On opening the abdomen the pelvis was found to be filled with pus, and pus was generally diffused throughout the peritoneal cavity.

The perforated appendix was removed, the abdominal cavity thoroughly flushed out with warm, boiled water. A glass drain was placed in the pelvis, and iodoform gauze packing liberally inserted about the stump of the appendix.

The boy made a prompt and perfect recovery. Similar cases have been reported by Abbe[1] and Hartley,[2] and it may be well to bear in mind that operative procedure, though a *dernier ressort*, may be attended with success, while without operation the outcome is nearly certain to be fatal.

The question as to the propriety of deliberate removal of the appendix between attacks of inflammation, more or less acute, is one which has of late been accorded considerable attention. I, myself, in a paper read before the Practitioners' Society of this city in February of the present year, and published in the "New York Medical Record," March 18, 1893, presented a detailed account of twelve operations taken from my case-books, and considered the indications for the procedure together with the technique of the operation. *Figs.* 4 to 11

may serve to make clear the conditions met with in some of my cases. This list of twelve cases embraced one death, due to sepsis. There was at that time no other fatal case on record, although I was able to gather from literature sixty-four additional successful cases. Since then Duncan,[3] of Edinburgh, has reported a death, due also to sepsis, and I have knowledge through a personal communication of two others.

That the affection is fairly common is evidenced by the fact that cases are being constantly recorded. Thus, in the paper to which reference is made, I found, as said, sixty-four cases in existing literature, although the operation itself has a history of but three or four years, and at this date (December, 1893), I have knowledge—largely through personal communications from members of the American Surgical Association and of the New York Surgical Society—of three hundred and ninety other operations, these latter embracing eight deaths.

Fig. 4.—Slender adhesions binding cæcum and omentum to anterior abdominal wall; appendix sharply curved on itself and attached by thin membrane to cæcum.

We have, then, some four hundred and sixty-six operations, with eight known deaths, or an approximate mortality of 2 per cent.

The indications for operation I have thus far considered as existing in repeated attacks of inflammation, more or less severe, with or without the presence of a well defined tumour in the iliac fossa and with complete inability or diminished ability to pursue the calling in which the patient is engaged. There is generally the history of a sense of discomfort between the attacks, there may or may not be irregularity of the bowels. A further indication lies in liability to a serious attack while the patient is travelling, or when he is beyond the reach of competent surgical aid. For that these relapsing cases are liable to sudden, suppurative inflammation cannot be denied, although in general it may be assumed that the presence of old adhesions tends to protect the general peritoneal cavity from invasion.

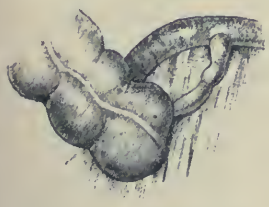


Fig. 5.—False membrane covering cæcum, appendix, and ileum, and containing near the appendix a few drops of pus; tip of appendix adherent to ileum, lumen constricted at two points.

Since the publication of the twelve cases to which reference is made I have operated on half as many more, and I can only say that added experience seems to strengthen my estimation of the value of the procedure. That it is not without danger is readily to be seen; what risk may attend a particular case can hardly be estimated in advance. The operation may be one of the simplest in abdominal surgery, viz., when the abdominal wall is thin, the cæcum free from adhesions and the appendix not bound down; on the other hand, if the wall be thick, the pelvis deep, the cæcum and appendix buried in a mass of old adhesions, the difficulties may be very great. The intestine may be torn, there may be a small abscess present and infection of the general cavity unavoidable. The condition of the appendix may vary very greatly. It may be stenosed, bent, twisted, enlarged, atrophied, free or adherent.

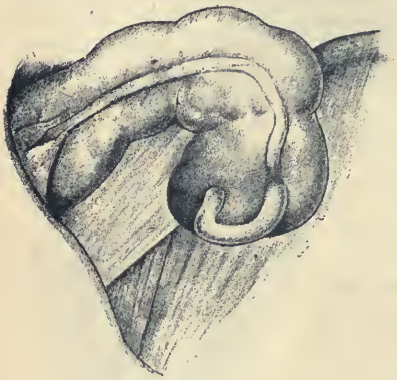


Fig. 6.—Appendix bent at a right angle by thickening of its mesentery, adherent by tip to under surface of cæcum.

In a case on which I operated a week ago, its proximal half was reduced to a fibrous cord, the lumen being obliterated.

In drawing conclusions from the history or the physical examination as to the condition of the appendix, I can do no better than to quote from my published article. "A history of frequently repeated light attacks, with discomfort in the intervals, indicates chronic inflammation of the appendix with stenosis of its lumen by bending or adhesions, or both. The shorter the duration of the attacks the less likely one is to encounter dense and resisting adhesions. Cases marked by severe

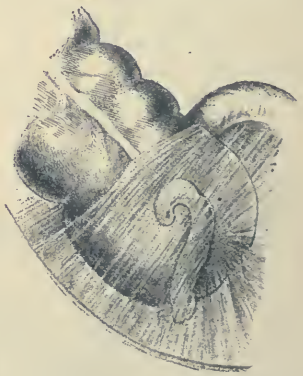


Fig. 7.—Appendix curled up on cæcum and buried in smooth old false membrane covering the extremity of the cæcum and binding it to the parietes behind.

attacks with appreciable "tumour," followed by slow convalescence, and recurring after brief intervals, point to an appendix deeply buried in false membrane, or closely adherent to adjoining intestine or parietes. And a small abscess may be encountered without there being tenderness or elevation of temperature. Without specifying the cases, I may further say that a superficial tumour, or one adherent to the abdominal wall, is probably made up of omentum containing the appendix, and possibly adherent to the cæcum as well. With a tumour deeply seated in the iliac fossa one is more likely to find the cæcum adherent to the parietes posteriorly, and the appendix behind it or curled up in the adhesions. In general a large exudation or tumour will offer difficulties and risks, for obvious reasons. But in an old case extending over three years, there may be no considerable volume to the tumour, while the toughness and extent of the false membrane may make success doubtful."

Fig. 8.—Appendix sharply bent and embedded in a mass of thickened omentum adherent to anterior wall opposite Poupart's ligament.

Further, as to the question, already much debated, whether the operation should be done at the time of an attack, or during quiescence. "The former period has been advocated because of the uncertainty as to whether another attack would occur, because of the difficulties met with in some cases—difficulties which I have dwelt on as increasing the operative risk—and because it may not be considered judicious surgery to perform an operation attended with even little risk at a time when life is in no danger. If we accept the clinical evidence offered of the typical course of the chronic

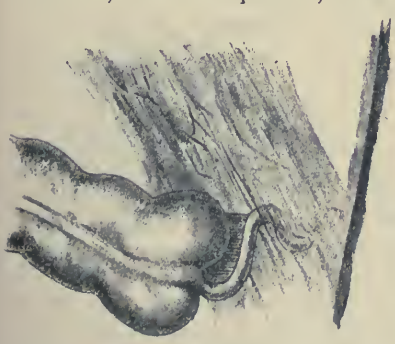


Fig. 9.—Omentum and cæcum adherent to anterior parietes; appendix adherent in part to cæcum and in part, after a sharp bend, enveloped in the omentum.

relapsing cases, and leave out of consideration the recurring appendicitis, we can be reasonably sure of the succession of relapses. The difficulties met with would be quite as great at the time of an attack. The danger of septic infection in dealing with an acutely inflamed, even suppurating, appendix, would be even greater than if it were attacked in a quiescent period. It might even be impossible to accomplish the object of the operation—the removal of the appendix. The operation at the time of attack is liable to be undertaken with disadvantages of insufficient preparation or unsatisfactory surroundings. It is likely to require larger incisions with drainage of suppurative foci; and these conditions are more favourable to development of hernia subsequently. In short, I believe it to be attended with quite as much uncertainty as the operation in the interval.

Fig. 10.—Appendix behind cæcum and adherent with it to lateral and posterior parietes; extremity dilated, walls ulcerated at one point.

"Some of the difficulties met with hitherto we may avoid in the future by removing the appendix at an earlier stage in the history of the disease—before successive attacks of peritonitis have left layer after layer of false membrane to conceal it. Some of the uncertainties and risks arising from features I have described may cause us to defer the operation in individual cases until the time of an attack. With patients in otherwise ill condition, this would be obviously judicious. But, with these exceptions, I am in accord with those who believe that patients are in more danger from the continuance of the disease than from the operation performed in the quiescent period."

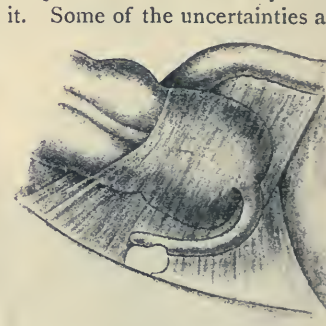


Fig. 11.—A thin film of false membrane spread over cæcum, binding it and appendix to the posterior parietes; perforation; small collection of thin pus. Died.

As to the operation itself, but little need be said. I prefer, in general, a slightly oblique incision at the outer border of the rectus muscle. This cut may be two and a half inches in length in a thin wall; if the abdomen be thick and the adhesions dense it may have to be much longer.

The cæcum is wedged about with sponges, adhesions gently separated, and the under surface explored. Following the anterior longitudinal band will generally bring one to the appendix, though it must be remembered that this may occupy an abnormal situation and may be buried in adhesions. After it is free its mesentery is transfixed at the base and a heavy ligature tied about a quarter of an inch from the cæcum—another ligature embraces the mesentery. The appendix is now cut away, the ligature at its base loosened, the mucous membrane drawn up with a tenaculum and a fine silk thread tied about it. The stump is then pushed (inverted) into the cæcum and the peritoneal coat of the latter sewn over it longitudinally with Lembert sutures of fine silk. All bleeding is carefully stopped, and the abdomen closed in the usual way. I have not used packing of gauze or drainage, unless a pus cavity has been found.

In "aseptic" cases the cæcum is washed off with plain, boiled water. If pus be present the region is mopped with 1—10,000 sublimate solution. In my last five cases primary union has obtained, without exception, and the patients have been out of bed at the end of three weeks.

An abdominal support is worn for several months after the operation.

REFERENCES. — [1] Personal communication; [2] "New York Med. Journ.," Dec. 21, 1889; [3] "Edinburgh Med. Journ.," August, 1893.

Synopsis.—(Vol. 1893, p. 79.) Some authors recommend **Rest** and **Opium**; others use **Saline Purgatives**. Saundby advises **Calomel, Hot Seidlitz Powders,** and **Enemata,** combined with **Rest** and **Hot Fomentations,** and in chronic cases **Blistering** over the tumour.

ASCITES. (See also "Anasarca.")

In the course of a discussion on the prognosis and treatment of ascites, Dr. Cheadle[1] remarked that in his experience no case of hepatic ascites showed more than temporary improvement when the liver was contracted. He thinks that it may be laid down as the first condition essential to cure that the liver must not have passed out of the earlier stage of enlargement; and that no degree of emaciation or dropsical accumulation negatives the possibility of recovery if the liver is large, the cirrhosis hypertrophic. The determining factors as to recovery or death are—the amount of liver tissue which remains functionally effective, and the freedom with which the portal circulation can be relieved by diversion into the œsophageal, superficial abdominal, and other veins by communicating channels. In the treatment the objects are: (1,) To prevent the increase of fibrosis; (2,) To remedy the atrophy and anæmia; (3,) To relieve the injurious pressure of the ascitic fluid. Dr. Cheadle believes that in the removal of the

fluid the use of hydragogue purgatives is a most disastrous and fatal practice, and that diuretics are futile. He advocates early paracentesis. The drug which produces the most striking effect in conjunction with repeated tapping is certainly **Iodide of Potassium**; but its beneficial effects are probably limited to syphilitic cases.

Dr. Samuel West [2] considers that the cases in which the small contracted liver is preceded by a stage of enlargement are very rare; that early paracentesis, repeated if necessary, with prolonged rest in the recumbent position, tonics and good food to support and strengthen; and above all, entire abstinence from alcohol in every form, are the essential lines of treatment, and upon these lines the most unexpected improvement or recovery not infrequently occur; so that ascites as the result of alcoholic cirrhosis can no longer be regarded a condition without hope or remedy.

Glax [3] refers to cases in which **Faradisation** of the abdominal muscles has led to the disappearance of the fluid. This method of treatment seems to have been tried in ascites brought about by various causes. The author maintains that the effect is due to the mechanical compression of the fluid, and not to increased diuresis, as is held by some writers. He says, however, that in thin individuals the sympathetic may be influenced by the faradisation, and unpleasant results such as fainting, etc., be brought about.

REFERENCES.—[1] "Brit. Med. Journ.," vol. ii., 1892; [2] "Brit. Med. Journ.," Nov., 1892; [3] "Centralb. f. d. ges. Ther.," Nov., 1892; "Brit. Med. Journ.," Dec. 3, 1892.

ASPHYXIA.

Synopsis.—(Vol. 1893, p. 39.) **Oxygen Inhalation** in cases due to poisonous gases, drug narcosis, or general anæsthetics.

ASTHENOXIA.

The word acidæmia has recently been applied to a certain condition of the system associated with excess of acid. The term asthenoxia covers the same conditions, and has been adopted by Dr. Percy Wilde [1] as a result of a series of investigations respecting the cause and treatment of rheumatism and its allied disorders. The examination of the blood in a long series of such cases, including many of rheumatic fever and acute gout, shows that while the quantity of acid in the blood undergoes variations both in health and disease, the quantity of acid present is never sufficient to justify the name acidæmia; the fluid is invariably alkaline. On the other hand, the saliva and sweat, which are normally alkaline, are found to be excessively acid when this condition is present. Dr. Wilde shows that this acid is formed in the tissues, and under proper physiological con-

ditions undergoes decomposition there ; that instead of being conveyed to the tissues by the blood, the larger the quantity of blood circulating in the affected tissues the more rapid is the destructive oxidation of these acid products.

The term asthenoxia is derived from the Greek words, ἀσθένεια, debility, and ὀξύς, an acid. It implies that the acid products are the result of a debility which may be either local or general in origin.

All causes which lead to defective metabolism in the tissues, physical fatigue, exposure to damp and cold, defective circulation, etc., may cause the production of acids in excess. The symptoms are those of debility, with often great mental depression. The debility differs from ordinary feebleness in the fact that the capacity for muscular exertion remains, and the patient often feels better after such active exercise as raises the heat of the body. Frequently troublesome irritation of the skin, low grades of eczema, and erysipelas are the symptoms especially complained of. In acute cases, urgent dyspnœa, with symptoms resembling asthma, may be present. The author also notices that tenderness over the epigastrium, more superficial than is the case with gastric ulcer, is frequently present.

When such patients contract a chill, or suffer from any disorder causing fever, the temperature runs a higher course than the local symptoms would warrant. But with the termination of the fever, the acid reaction disappears from the saliva and sweat, and the patient is usually in better health than before the attack. But if the acid reaction remains after the temperature has gone down, then convalescence is delayed.

Dr. Percy Wilde treats the condition of asthenoxia, both in its chronic and acute forms, by simulating the process which occurs in fever. The temperature of the patient is artificially raised by means of the "hot moist blanket pack," or by the use of vapour baths once or twice a day. After a few days, the acid reaction disappears from the perspiration, and there is simultaneous improvement in the symptoms from which the patient has suffered. Dr. Percy Wilde claims that disorders which have proved intractable to medicines for months or years, may be cured in a very brief period when this cause of many chronic ailments is recognized and treated. The symptoms of the disorder, and the details of the treatment, are fully described in the work to which we have referred.

REFERENCE.—[1] "Rheumatism : Some Investigations respecting its Cause, Prevention, and Cure," by Percy Wilde, M.D. London : J. Bale & Sons.

ASTHMA.

Dr. Thos. J. Mays' remarks that the spasm of asthma is evidence of degradation of weakness of the pneumo-gastric nerves, and that **Strychnine,** by elevating the tone of these nerves, increases the controlling power of the same. A stimulant dose of strychnine will depend on the age of the patient and the length of time during which the drug has been given, although asthmatics as a rule will bear larger doses than most other patients. Begin usually with $\frac{1}{30}$ of a grain subcutaneously once a day, and gradually increase to $\frac{1}{20}$ or $\frac{1}{10}$ of a grain, or more if necessary to impress the system with its full stimulant effects. To these amounts of strychnine small doses of **Atropine**—$\frac{1}{600}$ to $\frac{1}{400}$ of a grain—may be added. It is best to administer these drugs in the evening, because asthma is nocturnal in its attacks, and the patient should be protected at night so that he can sleep. Additionally to its hypodermatic use, this drug may be given in the following combination :—

℞ Phenacetini	gr. lxiv	Pulv. Capsici	gr. iv
Quininæ Sulph.	gr. xxxij	Strychninæ Sulph.	gr. $1\frac{1}{8}$
Ammon. Murias	ʒiss		

M. Ft. capsulas No. xxxii. Sig.—1 capsule four times a day.

Or in the following :—

℞ Strychninæ Sulph.	gr. $1\frac{1}{8}$	Syr. Acid. Hydriodici Syr. Hypophosph. āā	fl ʒij

M. Sig.—1 teaspoonful four times daily.

In fact, light cases of asthma require no hypodermatic injection, and do well enough when the above-named preparations are given. In severe cases it is of course advisable to add **Morphine** or **Nitroglycerin** to the strychnine and atropine treatment, especially at the beginning. This treatment will break up the paroxysms ; but even after they are broken, many old asthmatics still remain in the most abject misery. They may be compelled to sit up day and night panting for breath, and still labour under the impression that they are suffering from asthma. This is a mistake ; it is not asthma, but the natural state of exhaustion which follows asthma.

The dyspnœa is not paroxysmal as before, but is felt now on the slightest exertion. This stage of the disease is most important from a therapeutic standpoint. Nitroglycerin, lobelia and other narcotics are of no use. Rest is essential now. The patients must do absolutely nothing—lie down if they can, or sit still. They should even be fed. In patients who were breathing comfortably a most severe exhaustion-dyspnœa may be brought on by merely undertaking to write a letter. During the rest treatment, give food of the most nourishing character,

such as freshly expressed beef juice, a cupful a day, beef powder, beef, mutton, milk, oysters, clams, etc. In this stage **Strychnine** is also of the greatest value. **Massaging** is also to be used in desperate cases. **Electricity** is also of great service. So are **Rarefied Air** and **Calisthenic Exercises** obtained in the pneumatic-cabinet treatment. To procure sleep at night, morphine may be added to the hypodermatic injections of strychnine.

Success in treating asthma depends as much on the proper management of the individual as it does on the administration of drugs in the proper doses and at the proper time. Principles can only be carried out by paying attention to details; hence each patient must be under the complete control of his physician in regard to his food, exercise, medicines, and everything else. This pertains particularly to old asthmatics who are constant sufferers.

Ruel [2] has found on the cornea spiral formations resembling those described by Curschmann in 1882 as existing in the sputum of asthmatics and as made up of thickened mucus. He finds that the corneal spirals are epithelial outgrowths, and, on the strength of his observation of them and of their behaviour under the administration of **Ammonium Chloride,** suggests that the spirals of asthma are of like origin and would be checked in their formation by the use of the same drug.

For Bronchial Asthma [3] *the following may be useful:—*

℞ Potassii Iodidi	ʒij	Extracti Glycyrrhizæ Liquidi	ʒiij
Tincturæ Scillæ	ʒj	Spiritus Ætheris	ʒj
Tincturæ Stramonii	ʒij	Aquæ ad	ʒviij

Misce et fiat mistura.

Sig.—1 tablespoonful in a tablespoonful of water every six hours.

For Nasal Asthma [4] *:—*

℞ Cocaine Hydrochloride	1 part	Bismuth Subnitrate	16 parts
Triturated Camphor	2 parts	M.	

REFERENCES.—[1] "Amer. Lancet," Feb., 1893; [2] "Presse Médicale Belge," March 19, 1893; "Revue Générale de Méd. de Chir. et d'Obstét.," April 5, 1893; [3] "Pract.," Feb., 1893; [4] "Correspondenz blatt. für Schweizer Aerzte."

Synopsis.—(Vol. 1893, pp. 8, 14, 17, 47, 82.) **Anemonin** ¾ to 1½ grs.; **Cantharides Tincture** ½ to 1 drop thrice daily in cardiac asthma with albuminuria; **Chloralamide** in cardiac asthma. **Somnal** is a useful sedative. Dieulafoy applies **Cocaine Hydrochlorate** 5% solution to nasal fossæ and throat as a first step; **Pyridine** 6 to 12 drops inhaled on a handkerchief; **Morphine Hydrochlorate** $\frac{1}{12}$ gr. hypodermically, and repeated when necessary. Nasal polypi, exostoses, and rhinitis, should be sought for and treated, and in some such cases **Cauterization by Chromic Acid** is successful.

ATHEROMATA.

Synopsis.—(Vol. 1893, p. 158.) Incision of the cysts, Scraping out contents with sharp spoon, and removing cyst-wall with forceps, and, if necessary, applying Iodine Tincture to destroy it.

BED SORES.

℞	Balsami Peruviani	ʒij	Unguenti Resinæ	ʒij
	Unguenti Elemi	ʒiss		

Misce et fiat applicatio. To be applied daily.

REFERENCE.—"Practitioner," Oct., 1893.

BERI-BERI.

Max F. Simon[1] attributes death in beri-beri to the following causes, stating them in the order of their frequency: (1,) Heart failure from peripheral paralysis of its special nerves; (2,) Suffocation from congestion and œdema of the lungs; (3,) Pericardial effusion. Paralysis of the diaphragm, *per se*, he does not regard as likely to cause death, as he has seen cases in which this condition was pronounced recovery. Heart paresis is indicated by a quick, weak pulse, increased præcordial dulness, and a marked fall of body temperature; pulmonary congestion and œdema—when not complicated by heart paresis—by the hard pulse of arterial tension. Both conditions, but particularly that associated with high arterial tension, are markedly relieved by **Nitroglycerine**, which, freely but judiciously employed, may tide the patient over for a day or two, and until the natural tendency to recovery in this disease has had time to assert itself. In the sudden suffocative attacks he gives 5 to 10 drops of a 1 per cent. solution of nitroglycerine, repeating it, but in diminished dose, every fifteen or thirty minutes, according to the indications supplied by the patient's condition, and until the paroxysm passes over. He states that Dr. von Tunzelmann, in cases of cardiac paresis, has employed with success hypodermic injection of **Digitalin** along with the application of external heat.

REFERENCE.—[1] Simon, "Lancet," March 4, 1893.

Synopsis.—(Vol. 1893, p. 85.) **Tonics** in early stages; **Diuretics** are useful, especially **Acetate of Potash** and **Spirits of Juniper** (in acute cases digitalis is deleterious). **Alkalies** are required, such as **Ammonia, Bicarbonate** and **Acetate of Potassium**, along with **Belladonna**. Scott uses **Nitrate of Silver** in dry beri-beri, which shortens the course of the disease, especially if chronic neuritis is the principal defect. Many cases do well with good diet and tonics, especially **Nitro-muriatic Acid, Iron**, and **Strychnine**.

BLADDER (Surgery of). *E. Hurry Fenwick, F.R.C.S.*

Nodular Cystitis.—The pathology of nodular cystitis is well treated by Dr. Alexander.[1] He concludes from a microscopical examination of fifty-four bladders:—

(1,) That lymphoid nodules which occur in certain cystites are

exaggerations of lymphoid foci which form a part of the normal mucous membrane of the bladder, and that the same is true in regard to nodular inflammation of the renal pelvis, the ureters, and the posterior urethra.

(2,) That when there are a great number of lymphoid foci in the normal mucous membrane, infection of the bladder, if prolonged, is likely to assume a peculiar type, due to the enlargement of these foci into prominent and very vascular nodules, and that these cystites should be regarded as a special clinical variety to which the name *Nodular Cystitis* should be given.

(3,) That in cases of tubercular infection of the bladder the numerous lymphoid foci which are present in the normal bladder become enlarged, and, as a result of the special infection, undergo degenerative changes which are characteristic of tuberculosis.

(4,) That the lymphoid foci in the normal mucous membrane vary greatly in size and number; that prominent lymphoid nodules may occur in a bladder apparently normal, and without a previous inflammation. This, however, is exceptional, and it cannot be positively asserted whether the enlargement of the nodules in these cases is a normal or pathological condition.

The Microbe of Cystitis.—The bacterium coli commune (which originates from the gut) is stated to be most usually present in the various forms of cystitis. Dr. Wreden[2] instituted a series of experiments on male rabbits in order to ascertain the path by which the bladder becomes infected. He obtained the following interesting results, which seem to prove the inaccuracy of the theory advanced by Rovsing, viz., that infection in cystitis is due to the bacteria affecting the bladder from the vessels (bakterienembolie) :—

(1,) Injuries of the mucous membrane of the anus have no effect upon the bladder.

(2,) Every injury to the epithelium of the rectum, at a level with the prostate or higher, induced cystitis.

(3,) The character and course of the cystitis thus induced depended greatly upon the degree to which the mucous membrane was wounded and the nature of the stimulus which excited the inflammation.

(4,) The bacteria of the rabbits' gut was discovered in the urine of those rabbits in which cystitis had been thus induced.

(5,) Injury to the mucous membrane of the rectum, combined with injection of fatty substances (vaseline, oil, etc.) into that canal, was followed by the microscopic appearance of these substances in the urine.

The cause of the ammoniacal urine of cystitis is being briskly

discussed. Rovsing stated that cystitis is induced by certain bacteria which occasion ammoniacal decomposition of urine. Müller,[3] from experimental researches, concludes that the bacteria producing cystitis do not cause ammoniacal fermentation of urine.

The use of salicylic acid in cystitis is advocated by J. P. Bryson, of St. Louis. He states that $\frac{1}{10}$ per cent. of salicylic acid is useful in cystitis when it is necessary to cleanse the mucous membrane of adherent mucus and muco-pus for the cystoscope, or for the application of nitrate of silver or thallin solutions. In many cases failure in the application of bladder washes (either as bactericides or astringents) is due in a large measure, according to Dr. Bryson, to the fact that the remedies do not reach the epithelial surface at all, and unless this precaution is taken, the surface is covered with a coating sufficiently thick to protect it alike both from the irritation of the ammonical urine and the medicated fluid.

Irrigation, then, should precede all curative washes. When the exudation is thin and made up chiefly of free pus, the solutions of borax, boracic acid, or chloride of sodium adequately effect their purpose ; but the more chronic the inflammation becomes, the deeper it sinks ; and the more it determines cell proliferation and mucous secretion the more useful becomes the salicylic acid solutions as cleansing agents.

Salicylic acid is unnecessary in acute or mild cystitis. It is contra-indicated where ulceration or a disposition to bleed is present. In tuberculosis it is distinctly harmful. It is wise after using the solution to freely wash away, with a bland injection, any which may remain behind.

Dr. Saml. Alexander[4] contributes an important paper on some mistakes in the use of intra-vesical injections in the treatment of cystites of prostatics. He made the following statements :—

(1,) All intra-vesical injections are contra-indicated in cases of cystitis of prostatics where the inflammation is so acute that it is impossible to wash the bladder or to inject sufficient fluid to wash it without causing pain or an increased desire to pass water.

(2,) Local anæsthetics (cocaine) in the bladder are harmful because they cause congestion in the cases in which they are employed.

(3,) All injections are contra-indicated if pain is intensified by them.

(4,) As regards internal medication, Dr. Alexander insists that although diluents hold a very high place in ammoniacal decomposition of urine, yet their use is attended with this objection, that in cases of painful cystitis, where the bladder is small and tender, the too free use of diluents is apt to tease the bladder and increase the grade of congestion.

Stone in the Bladder.—Dr. Bolton Bangs[5] states that accidents during litholapaxy are not uncommon, but that they are usually confined to the bladder itself, or to the breaking of the instrument. In the following case he records, however, the accident was due to the stone. After the first crushing and evacuation of a stone, it was found that the lithotrite could not be passed through the prostatic urethra, though persevering efforts lasting over half-an-hour were made.

Suprapubic cystotomy was then performed, and it was seen that a fragment of stone had become lodged between the enlarged median lobe and the posterior wall of the bladder, causing the former to be pressed forwards and to create an insuperable obstruction.

Dr. Keyes[6] reports a case of urinary extravasation after litholapaxy which is most instructive.

The patient was sixty, with moderate prostatic obstructive disease He had had two litholapaxies performed previously, and declined taking chloroform. He struggled violently under ether. After the operation suppression set in, which was relieved by the administration of 20 grs. of calomel. Neither chill nor temperature ensued. Ten days after, another attack of suppression supervened, the belly began to swell, and a deep thickening could be felt on one side. An exploratory incision over the posterior part of the swelling disclosed a cavity containing a quart of urine. The cavity surrounded the kidney, and contained masses of putrid lymph. The effusion was subperitoneal. With appropriate drainage the patient was reported to be practically out of danger at the meeting before which the case was brought. Dr. Keyes thought the effusion came from a cyst either of the kidney or upper part of the ureter, which ruptured during his violent struggles while taking ether, and that the other kidney stopped acting temporarily from sympathy.

Suprapubic Cystotomy (The Technique). — Bristowe[7] (Brooklyn) has made a number of experiments to determine the relative efficiency of air and water. He states he has found that with air the bladder is lifted up easier and more thoroughly than with water. He proposes to use inflation in suprapubic cystotomy, and to employ expired air, as it is said to be sterile. If it is desirable to measure the amount of air injected, a syringe can be used for the purposes of inflation. In order to sterilize the air it will be sufficient to interpose between the syringe and the injecting nozzle a glass tube filled with a filter of sterilized cotton. He adds, the danger of infection, however, is somewhat fanciful, as the bladder which requires suprapubic cystotomy is sure to contain pyogenic organisms.

[Mr. Bristowe is apparently unaware of the ease with which air finds

its way up the ureters in those bladders that have suffered from obstructive disease of any character.—E. H. F.]

N. Senn [8] proposes in cases of septic cystitis to perform the operation in two stages, as necrosis and phlegmonous inflammation of the margins of the wound and the tissues in the prevesical space not infrequently take place if the operation is performed for affections complicated by septic cystitis. In the first operation the bladder is freely exposed in the usual manner, and the prevesical fat is dissected away over a vertical oval space at a point corresponding to the location of the proposed vesical incision. After this the wound is packed with iodoform gauze. The incision into the bladder is postponed until the external wound has become covered with active granulations. This usually requires four to six days. This modification is asserted to diminish the immediate risks of the operation and to afford protection against a number of serious complications.

R. W. Parker [9] in advocating the use of the transverse incision in suprapubic cystotomy (Trendelenberg's incision), as affording an easier and a freer opening into the bladder, records several cases of suprapubic cystotomy. The three cases which are advanced to support the contention that the transverse incision should supersede the vertical are hardly convincing. The transverse route is certainly much easier, and it affords much greater space for manipulation ; but the mutilation is infinitely greater, the shock in elderly people more profound, and the main vertical abdominal muscle and the vesical detrusor is severed to the detriment of the muscular power of the belly and bladder, and the patient is exposed to the contingency of ventral hernia. In the majority of cases it is unnecessary to have such free incision or inspection, and the collaborator speaks from an experience of over fifty suprapubic cystotomies. If, however, in the course of an operation sufficient room cannot be obtained, the edge of one or both recti can be nicked transversely and sufficiently, without placing the entire muscles *hors de combat*. The late Mr. M'Gill, of Leeds, who used to be an advocate for the transverse incision in prostatectomy only employed it in cases of especial difficulty on account of the disposition to ventral hernia it entailed (compare "Tumours of the Bladder").

Wickhoff [10] mentions the frequently experienced difficulty in suprapubic cystotomy for vesical tumours, and suggests symphyseocystotomy. This operation has already been performed by Albarran (compare " Resection of the Bladder").

Southam [11] gives a list of seventeen suprapubic cystotomies with five deaths, and concludes from this experience that the suprapubic

operation is far superior to perineal cystotomy for the removal of tumours, for large stones and for very hard stones which cannot be recovered by litholapaxy, and for habitual retention due to enlargement of the prostate, when catheterism has failed, or when uncontrollable hæmorrhage is accompanying it.

The five fatal cases were due to septicæmia, pelvic cellulitis and peritonitis. He considers the bladder wound should never be sutured, and in these views the collaborator entirely concurs.

Drainage.—Farrar Cobb[12] suggests the use of capillary drainage for the bladder after suprapubic cystotomy. An ordinary glass drainage tube rounded at the lower end, and with a collar at the top, is passed into the bladder. Along the whole length of this is pushed one end of a long strip of iodoform gauze, the other and outer end is led over the side of the bed into a bottle, and capillary drainage is thus established; the strip of gauze is changed once in twenty-four hours. The wound is packed with absorbent cotton wool, thoroughly impregnated with oxide of zinc ointment. After dressing the wound, which is done every twelve hours, it is advisable to draw off any urine which may be present in the bladder by means of a syringe.

Drainage after suprapubic cystotomy by inserting ureteral catheters is advised by Willems[13] whenever the urine is unhealthy and septic, because the urine is thereby conducted straight from the ureters into a receptacle without contaminating the wound, and because it also permits of the bladder being plugged with antiseptic material.

Resection of the Bladder.—Albarran[14] exhibited a patient, part of whose bladder he had resected for recurrent epithelioma. Symphyseotomy was performed as well as the usual suprapubic incision; the inferior left lateral part of the bladder was removed without difficulty, and the result was successful.

The collaborator has successfully resected part of the left lateral wall in a man for recurrent epithelioma, and found that access to the bladder was sufficiently obtained by dividing the left rectus and lower abdominal oblique muscles. Probably in most cases this incision will be sufficient, and symphyseotomy can be reserved for very large resections, or for those growths which need ablation of part of the prostate or base as well.

Accidental Resection of the Female Bladder.—A very remarkable and interesting case of this kind is given in detail by Dr. Loumeau.[15] The entire posterior wall was resected during a laparotomy, and the accident was not discovered until the operation was complete and the patient was ready for bed. The catheter was passed, but blood only was withdrawn. Whereupon the median wound was opened and the

uterus drawn forward over the defects so as to make, with the adhesions of the uterine edges to the peritoneum, a new posterior wall. A small vesical opening was left suprapubically and the patient did well, but eventually committed suicide.

Sacculated Bladder.—J. H. Targett[16] in an interesting Erasmus-Wilson lecture on cystic tumours connected with the bladder, suggests the possibility of radical cure, by ligature and excision, of some forms of sacculi of the bladder, notably those away from the ureter, and possessing small necks.

Rupture of the Bladder.—A remarkable case of rupture of the bladder due to ulceration in an old man of seventy-five is recorded by Dr. J. Johnston,[17] of Bolton. Twelve days before death, bright red liquid blood followed by clots suddenly preceded bloody micturition. The act was performed every two hours and with great straining. After these symptoms had lasted eleven days he felt a sudden and fearful pain across the bladder. He screamed, fainted, and had a rigor. After this no urine passed, and the catheter failed to withdraw any. On *post mortem*, a simple but deep ulceration three inches in diameter was found on the posterior wall. It had given way into the peritoneal cavity, and a pint of blood was found to have escaped through the rent.

Idiopathic Prevesical Cellulitis.—Dr. Englisch[18] draws certain conclusions from a *résumé* of thirty cases of idiopathic inflammation of the cavity of Retzius, seven being from his own experience. It occurs most frequently in males, from twenty-five to thirty years of age. There is an acute and a chronic form. In the former group the onset symptoms do not point to the prevesical space. Constipation, then diarrhœa and urgent gastric symptoms, then pain in the affected area. A tumour gradually appears between the second and twelfth day. The tumour suggests an over-distended bladder, but this is disproved by the catheter. Moreover, the swelling spreads from below upwards, it is sharply circumscribed, and is of a triangular form with the base uppermost. The inflammatory process may resolve or suppurate: apparently the former is most frequent. If suppuration ensues, the abscess may burst into the bladder, vagina, urethra, peritoneal cavity, or colon.

Occasionally the chronic form is met with, and the premonitory symptoms are absent, the appearance of the suprapubic tumour, with or without retention, drawing attention to the part. Probably scrofula or tuberculosis plays an important *rôle* in the causation.

REFERENCES.—[1] "Journ. Genito-Urinary and Cut. Dis.," July, 1893; [2] "Centrabl. fur. Chirurg.," No. 27; [3] "Annales des Mal. Organ. Gen.

Urin.," Oct., 1892 ; [4] "Journ. of Cut. and Gen.-Urinary Dis.," April, 1893 ; [5] Ibid., July 16, 1892 ; [6] Ibid., p. 34, Jan., 1893 ; [7] "Annals," p. 667, vol. xvii., 1893 ; [8] "Philadelphia Med. News," July 1, 1893 ; [9] "Clinical Trans.," p. 88, 1893 ; [10] "Wien. klin. Woch." No. 11, 1893 ; [11] "Lancet," March 18, 1893 ; [12] "Boston Med. and Surg. Journ.," Aug. 24, 1893 ; [13] "Annales de la Soc. de Méd. de Gand.," 1892 ; [14] "Sem. Med.," Jan. 18, 1893 ; [15] "Chirurgie des Voiês Urinaries," p. 224, 1893 ; [16] "Brit. Med. Journ.," p. 218, July 29, 1893 ; [17] "Brit. Med. Journ.," June, 1893 ; [18] "Wien. med. Woch.," (42—46), 1892 ; "Annals of Surgery," p. 105, 1893.

BLADDER (Therapeutics of).

Phenacetin has given good results in Dr. Traill Green's[1] hands for the relief of senile vesical irritation. A 10-grain dose at bed time is said to soothe the nocturnal irritability, and to lengthen the intervals of micturition during the following day. No influence on the quantity of urine secreted was reported. It did not appear to be necessary to use the phenacetin continuously to get the desired result, and the only contra-indication to its employment is said to be in cases of prostatic enlargement.

Wagner[2] has found that in some cases of bladder paralysis depending on lesions, which are sufficient to abolish the knee-jerk, the bladder sphincter may so far have lost its tone as to allow of the urine being ejected by external pressure. He considers that in cases of tabes, tabetic general paralysis, polyneuritis with vesical derangement and injuries of the spinal cord, accompanied by loss of the knee-jerk, bladder compression may be advantageously substituted for catheterisation. When the knee-jerk is increased the resistance of sphincter cannot be overcome by external pressure.

[3] An abraded and fissured condition of the mucous membrane of the neck of the female bladder may produce frequency of micturition at times accompanied with severe tenesmus, especially after exposure to cold, or indulgence in alcoholic or sexual excesses. These symptoms are allayed, or even entirely relieved, by rest in bed. At the times when they are most severe there is usually some blood passed, generally no more than a few drops, which appear immediately after micturition. Sometimes the bleeding is so frequently repeated and persistent that the patient is rendered distinctly anæmic. On examination *per vaginam* during these periods of exacerbation, a tender spot can be found near the neck of a bladder. In some cases various reflexes are excited, and a condition of neurasthenia is produced very similar to the sexual neurasthenia constantly observed in males who are the subjects of chronic posterior urethritis.

The indications for treatment are to render the urine bland and

antiseptic by careful regulation of the diet, the administration of alkaline diuretics, and the cautious use of **Salol, Boric Acid,** and **Oil of Sandal-wood**. Salol and boric acid are administered in 5-grain doses four times a day. Of all the aromatics, oil of sandal-wood gives the best results in this form of inflammation. It should be given in 10- to 20-minim doses one hour after meals. Should any dyspeptic symptoms appear, ingestion of these remedies must be stopped.

The direct treatment is that upon which reliance must be mainly placed, and will usually promptly cure. Where there is violent tenesmus, temporary relief may be obtained by the instillation of a few drops of a 4 per cent. solution of **Cocaine** into the deepest part of the urethra. The urethra should be gently dilated, and the diseased area touched with **Nitrate of Silver Solution,** 20 to 60 grains to the ounce, applied by means of a speculum. There should be a daily irrigation of the urethra with a mild antiseptic solution, preferably **Permanganate of Potassium** (1 to 6,000), **Permanganate of Zinc** in the same strength, or **Bichloride of Mercury** (1 to 10,000). In some cases, for direct application, **Sulphate of Copper** (10 to 20 per cent.) solution, or **Carbolic Acid** and **Iodine,** equal parts of each, will be found more serviceable than nitrate of silver. In gonorrhœal cases, however, and these will include the great majority, the silver is generally the most serviceable. The strong solutions are, of course, always applied by means of cotton on a holder.

Chronic Cystitis.—Remarking on the unsatisfactory results attending the treatment of chronic cystitis in the female, Dr. Halliday Croom[4] protests against the use of general opiates as tending to render the distressing condition absolutely hopeless, and insists on purely local measures. Antiseptic treatment of the mucous membrane is the first indication, and is best met by irrigation with **Boric Acid** or a warm solution of **Corrosive Sublimate,** 1 part in 3,000 or 4,000 of water. To be of any service the irrigation must be conducted for at least half an hour, and repeated three times a day. It is advisable to distend the bladder to the free extent that can be borne by the patient. This treatment must be continued for some weeks. Repeated depletions by means of leeches applied to the anterior vaginal wall often give most marked relief to the congested mucous membrane.

The second indication is to obtain rest for the thickened and irritable muscular tissue, and in recent and sub-acute cases this is best effected by rapid dilatation of the urethra with Simons' dilators. In tuberculous cases this measure is contra-indicated on account of the resultant incontinence of urine (which is temporary and beneficial in non-tubercular cases), becoming almost invariably permanent. Permanent

drainage by the Skene-Goodman catheter is clumsy and ineffective in the female bladder. Dr. Croom concludes his paper by advocating a return to the old operation of kolpo-cystotomy, the vesico-vaginal fistula being produced by the galvano-cautery or scissors.

Dr. Reginald Harrison[5] has found **Ergot** of much benefit, even in old, long-standing cases of atony of the bladder. Several patients, whose ages ranged between sixty and ninety years, were enabled by its use to lay aside the catheter, after being victims of its daily use. The ergot is usefully combined with **Cantharides** and **Nux Vomica.**

Dr. Lauder Brunton[6] remarks that there are two common morbid conditions of the bladder that call for treatment, viz., imperfect evacuation and imperfect retention, the former being due to lack of either muscular or nervous power, the latter frequently associated with too great power of the sphincter. Probably both are due to derangement of nervous co-ordination in the majority of cases. If the involuntary muscular fibres of the fundus be stimulated more than the sphincter, evacuation results ; but if the sphincter is stimulated more than the fundus, retention is brought about. **Nux Vomica** appears to be the most useful drug in treating imperfect evacuation. **Belladonna** probably soothes the irritability of both fundus and sphincter ; but, as the fundus is more quieted than the sphincter, the urine is better retained ; but it is absolutely necessary in many cases of incontinence to produce poisonous effects before the desired action is obtained.

Cantharides, in small doses, has apparently the opposite effect to belladonna, or it may increase the excitability of the sphincter so that the urine is retained in spite of the efforts of the fundus to evacuate it. Cantharides may, therefore, be used in incontinence if belladonna fails, or the two drugs combined may prove valuable. Due care must be taken not to push cantharides without carefully watching the urine for albuminuria, which would indicate the immediate discontinuance of the drug. Dr. Brunton emphasizes the value of the sound of running water—*e.g.*, in urinals or from an ordinary tap—in assisting the action of micturition in nervous subjects. Washing the hands with cold water is another help, as also the application of a cold, wet sponge, or hot water, to the perinæum ; and the well-known hot sitz bath must not be forgotten.

Otis[7] rarely employs local treatment in early stages of cystitis, but in some cases pain and frequent micturition are relieved by an injection of **Nitrate of Silver** into the prostatic urethra. For subacute conditions, he injects mild solutions of the same drug until the bladder is filled, and a week later the injections are increased in strength. He gets good results from injections of **Salicylic Acid** in senile cystitis,

when a quantity of mucus is present. Small value attaches to the use of the galvano-cautery directed to the affected spots by the aid of the cystoscope. He prefers to apply the cautery through the opened bladder.

Dr. Guyon[8] employs a solution of **Sublimate** of the strength of 1 to 5000, in the local treatment of various forms of cystitis. Its action was tested in twenty-six cases of tubercular, gonorrhœal, prostatic, and other forms of cystitis. At first, 20 to 30 drops of 1 to 5000 solution are injected into the prostatic urethra; later, one may employ a solution of 1 to 1000, and may inject the whole contents of a syringe holding some 4 grammes, leaving the solution in the bladder, which should be empty before injecting. The more severe the pain, the more carefully must the injections be regulated as to quantity. In tubercular cases, the results were most encouraging. In chronic gonorrhœal cases, the remedy is also valuable. Washing out the bladder proved to be of much less value. When all washing was stopped, and mere injections adopted, the cases began to improve. In no instance did any accident, general or local, follow the use of the sublimate.

REFERENCES.—[1]Green, "Univ. Med. Mag.," June, 1893; [2]Wagner, "Neurol. Centralbl.," April 15, 1893; [3]"Therap. Gaz.," January 16, 1893; [4]Croom, "Practitioner," February, 1893; [5]"Brit. Med. Journ.," March 11, 1893; [6]Brunton, "Practitioner," Feb., 1893; [7]Otis, "Journ. of Cutan. and Genito-Urinary Dis.," Aug., 1892; [8]"Annales des Maladies des Organes Genito-Urinaires."

BLADDER (Tumours of the Urinary). *E. Hurry Fenwick, F.R.C.S.*

As was predicted[1] in 1888, the introduction of electric cystoscopy inaugurated a new era in the diagnosis and treatment of obscure diseases of the urinary organs. The extent of the progress which has been made by means of this method can now be gauged in nearly every department of urinary surgery. It is perhaps, however, most marked in the present state of our knowledge of those tumours which affect the mucous membrane of the bladder and in the more effective and judicious treatment which is now adopted in dealing with them. Early recognition of their presence, a just appreciation of malignancy, and an early and free ablation of the benign types have, in the last six years, superseded the halting diagnosis, the uncertain digital exploration[2], and the unsurgical and generally incomplete removal of all forms of vesical tumour, irrespective of their character or their rate of progress. The experience of more than a hundred cases of tumours of the bladder enables me to emphasize these statements, and at the same time to touch upon certain points which seem to me to have an important and practical bearing upon the judicious and successful treatment of the disorder.

PLATE II.

Fig. A.

Fig B

The vesical tumours which occur in childhood may be dismissed with short notice. They are very rare, usually of a sarcomatous nature, and commonly prove so rapid and luxuriant in their growth that they are beyond the domain of surgery almost before the true character of the case is recognized. *Fig. A*, *Plate II.*, is a photograph of the bladder of a girl aged five (Guy's Museum, 2104-30). The neoplastic mass which is represented as hanging below the level of the vertically opened bladder had protruded during life from the urethra. It had been forced along that channel by the enormous pressure of the exuberant sarcomatous growth which had previously over-distended the viscus. This luxuriance proves rapidly fatal by obstruction, and it is often the cause of some operative difficulty when these tumours are attacked. Thus, in boys, the sarcoma is sometimes so compressed in the bladder that it literally springs from the viscus as the suprapubic incision divides the wall, and its return is impossible. The surgeon is then committed to the complete removal of the mucous membrane, or to a resection of the protruding mass; in the latter case an open fungating wound is left.

Our interest in the vesical tumours in the adult centres round their radical removal. This depends upon the three factors which constitute the lethal capacity of any given tumour: (1,) The character of the base, whether it is prone to infiltrate the wall of the bladder; (2,) The location of the tumour over or near the urinary outlets (ureters, urethra); (3,) The capacity of each variety to exhaust by hæmorrhage.

(1,) *The Character of the Base.*—Although papillomata are innocent tumours, and for many years evince no tendency to infiltrate the subjacent tissues yet, as time advances, a papilloma may undergo carcinomatous degeneration towards its base and rapidly take on malignant action. This is a strong argument for their early ablation. The sarcomata usually infiltrate rapidly, for they originate in the submucous tissues, and part or all of the bladder is soon transformed into a thick hard cake. *Fig. C*, *Plate III.* (R. C. S. Mus., 3,706) represents a vertical section of a bladder entirely transformed into lympho-sarcoma, only a crack being left of the vesical cavity. Occasionally (10 per cent. of sarcomata) a sarcomatous growth is encountered in which a definite tumour has formed, and this is so pedicled to the surface as to permit of its complete removal. *Fig. B*, *Plate II.* (Guy's, 2103-50) represents a pedicled sarcoma. Carcinomata differ widely as to their basal character. Two well-pronounced types exist, between which, however, there are many intermediate grades. A knowledge of this is of the utmost importance in giving an opinion as to the

advisability of dealing with malignant tumours. We are able to recognize a succulent form of epithelioma of the mucous membrane which may be very torpid at first. It often develops slowly. The activity and increase are mostly towards the surface. It moreover infiltrates indolently; so that, if attacked early, it may be freely removed, and with a fair chance of increased tenure of life. *Fig. E, Plate IV.* (University College Museum, 1475) shows a large succulent malignant mass which springs from a well-defined base from the posterior wall. The bladder is divided vertically and opened out like a book. On the other hand there is the dense, rapidly infiltrating form of malignant disease which causes an early thickening in the wall, very easily distinguishable by rectal examination. This hardness is coincident, or is felt very soon after the onset of the symptoms. On opening such a bladder a large ulcer, excavated and rolled like a rodent ulcer of the skin, is sometimes seen *(Fig. D, Plate III.)*, but more generally it is met with as a tuberous sessile growth possessing a shreddy or papillary surface. Its chief mass is situated exactly over that portion of the base where the cake-like hardness is detected per rectum. *Fig. F, Plate IV.*, represents such a sessile mass, and the wall beneath it towards the left base is seen to be extremely thick and infiltrated. In this form the operator is powerless, and any interference with the surface aggravates the disease. All that can be done is appropriate drainage. I cannot furnish statistics as yet to show how often the slower growing, succulent, surface epithelioma will be met with, for up to quite lately such cases were only sent to me when they were already well advanced in the infiltrating stage, but I believe they occur in a fair proportion, and that in the future such will be attacked in their earlier stages, and a certain amount of benefit will accrue from the intervention.

(2,) *The Position of the Base of Vesical Tumours.*—The papillomata show a marked tendency to grow about the orifices of the ureters (69 per cent.), or to grow around or float into and to cork the urethral orifice (8 per cent.). In the former position they drag upon and narrow these openings, or they may similarly obstruct the free outflow of urine from these orifices by covering them completely. An insidious, chronic interstitial nephritis of one side is thus produced by the backward pressure, and this progresses unnoticed either by the patient or the practitioner. When the urethral orifice is narrowed or obstructed by a floating pedicled papilloma, the bladder becomes hypertrophied, and finally both kidneys become hydronephrotic. When such growths are at length submitted to operation the patient passes through a dangerous crisis, and may finally succumb to kidney failure. This un-

Fig C

toward termination can be avoided by earlier operative interference, for it is not the suprapubic removal which creates the mortality in simple growths—it is the postponement of ablation until one or both kidneys have become irreparably damaged by backward pressure. These remarks apply with still greater force to sarcomata and carcinomata, for these forms not only affect the neighbourhood of the ureters, but frequently invade the orifice of the bladder as well. Renal changes, therefore, which a benign growth may require years to produce, will only need months when the growth is of the malignant type. Superadded to this is the danger of ascending inflammatory mischief which is so readily induced by injudicious examination in all forms of vesical tumour, and which appears early and spontaneously in the rapidly disintegrating malignant tumours.

(3,) *The Tendency to Exhausting Hæmorrhage.*—It is rare for a pure papilloma to bleed otherwise than moderately in the beginning of its life. As its age advances in *years*, however, the tendency to hæmorrhage becomes more marked, the intervals of freedom shorter, the control of drugs less certain, and the loss more profound. When carcinomatous changes have taken place in the base the capacity for profuseness is heightened. If the tumour is malignant, the onset hæmorrhage may be alarmingly severe. This is more especially the case when the hæmorrhage has been started by a blow or a wrench, which has split the soft surface of the growth or has lacerated its basal attachment. The initial attacks of hæmorrhage from any tumour (cp. Symptoms) are so transient and so readily checked by medicine, and the patient is generally so averse to examination of the bladder, that valuable time is lost, and the surgeon is only consulted when the depletion can no longer be controlled by drugs. The damage has probably, however, been done. If it be a papilloma, the profuse drain upon the system affords the ablation a diminished chance. Several times I have been reluctantly forced to adopt the perineal route in patients, blanched by repeated and exhausting hæmorrhage, in order to save life, but I have operated thus with the full knowledge that the removal would be incomplete and unsurgical. A perineal operation is tantamount to a recurrence, and yet this is preferable to losing the patient from the exhaustion of the suprapubic method.

In cases of pedicled sarcoma or carcinoma, a prolonged or a debilitating hæmorrhage, coupled with that feeble healing power which patients even in the early stages of malignant growths often exhibit, renders an ablation or a resection much more hazardous.

Clinical History.—I think I may assert that each of the three

groups—the papillomata, the indolent surface epitheliomata and the dense and rapidly infiltrating carcinoma—possesses a well-marked clinical history; but before describing these I wish to remark upon "onset" symptoms.

The onset symptom, or group of symptoms, which first attracts attention to the urinary organs, does not herald the *birth* of the growth. The onset symptom really marks the termination of the first stage of the existence of the tumour. In nearly every case of tumour which I have cystoscoped within a few weeks of the commencement of the symptoms, I have found the growth to possess a surface characteristic of the type to which it belongs, and to be of a size above that of a monkey nut. From this it can be safely inferred that the growth had been in existence for some time, and, judging from the slow growth of certain papillomata, often for a long time. Again, in examining some cases by the cystoscope on the recurrence of the symptoms after operation, I have found that the hæmorrhage only appears when the tumour has reached a decided size.* Tumours have, moreover, been met with by chance in the *post-mortem* or dissecting rooms, and it has been ascertained that they had given rise to no symptoms during life, the patient having succumbed to some other disease before the first stage of the tumour had been passed through. There is, therefore, in the life history of every tumour a variable period in which no symptoms are complained of. This first stage may be conveniently termed the "*latent*" stage.

Second Stage.—The latent period is brought to an abrupt termination either by the appearance of blood in the urine or by the sudden development of irritability of the bladder and pain on micturition. Most writers, copying Gross, have laid stress upon the character of these onset symptoms as being indicative of the nature of the growth, and have asserted that the appearance of hæmaturia points to a benign character, but that the occurrence of vesical irritability reveals a malignant type. We now know this to be a mistake, for the softer forms of epithelioma bleed some months before they commence to infiltrate.

We possess accurate facts which permit us to assert that 92 per cent. of benign growth and a large proportion of softer surfaced malignant growth mark their transition from their latent first period to the second period of their existence by the appearance of blood in the urine. The importance of this statement cannot be overestimated when we remember that it is only in these two classes of tumour that

*I have met with two exceptions, both of which were examined within two months of the initial hæmaturia; one was the size of a pea, the other the size of a split pea.

Fig. E

Fig. F.

operative procedure is indicated and advisable. The third and infiltrating group, which starts with cystitis, is quite inoperative.

Onset Symptom of Benign and of Succulent Surface Epitheliomata.—The onset hæmorrhage from a benign growth differs sometimes from that caused by a succulent epithelioma of the mucous membrane. In the former the loss is generally slight, consisting most often of a few drops of blood at the end of a clear micturition, or of a single evacuation of rosy coloured urine. Its advent is nearly always causeless. In epitheliomata, however, the patient often attributes the onset to a strain, to jolting in a conveyance, or to over-fatigue. The onset hæmorrhage is, in the latter case, not infrequently more profuse. Both hæmaturias, however, share this characteristic, that they are at first painless and unaccompanied by vesical irritability, unless, of course, there is retention or blockage from clot. The hæmorrhage is intermittent in both groups, but in the benign the intervals of perfect health and normal urine are longer than in the epitheliomata in the proportion of years to months. Should a papilloma become pedicled, or should it tend by its position to obstruct the free outflow of urine, other symptoms will be superadded to the hæmaturia, such as obstruction to the stream, straining, and pain at the end of the penis. It is usually rare for this to occur within the first two years. The other symptoms of the second period relate to obstruction to the stream, frequency of micturition, and pain. Sooner or later both forms of growth will enter upon their third period—namely, that in which cystitis appears as a complication.

Onset Symptoms of Dense, Infiltrating, Malignant Disease.—Usually the first symptom is the occurrence of great irritability of the bladder. Pain on passing water is felt towards or at the glans penis. The urine becomes rapidly puriform, and blood appears in variable amounts. In many cases the three symptoms are practically coincident.

Third Period.—This period is ushered in by the appearance of cystitis. In benign tumours the third period may be delayed for fifteen or for twenty or more years ; but once cystitis has set in, renal complications are apt to supervene, and the operation for removal has but an indifferent chance of success. With the surface epithelioma the advent of the third stage is, of course, much more rapid. The growth begins to break down and infiltrate usually within nine months of the onset of painless hæmaturia, and then all hope of successful removal is gone.

In dense, rapidly infiltrating carcinoma the second and third stages are most often merged in together, the onset symptoms being sudden pain, frequency of micturition, and hæmaturia. In some the hæmaturia

may precede by a few days the pain and frequency of micturition; in others the symptoms of cystitis may precede the hæmorrhage, but practically the broad rule obtains that the second and third stages are passed through simultaneously.

DIAGNOSIS.—*Benign Growths.*—Intermittent attacks of hæmaturia unaccompanied by urinary pain, frequency of micturition, or obstruction to the stream, occurring in a patient about or over thirty years of age, who has intervals of perfect health and *normal* urine, should be regarded as most suspicious indications of vesical growth. An examination of the urine usually affords a clue to the vesical origin of the hæmorrhage: vesical characters being the formation and passage of large irregular-shaped clots, of brightish blood-coloured urine and of the appearance of blood at the completion of clear urination. Although any one of these characters may be absent at any one particular time in the second stage, yet they may be met with in the course of it, and inquiries should be made concerning them. Moreover, in a small percentage of the cases (19 per cent.) scraps of growth are passed, and these are certain evidences of the vesical position of the tumour, *though not of the true character of the base of the growth.*

It is well to remember that "villous" scraps are quite unreliable as guides to the benign character of the tumour, for 41 per cent. of vesical carcinoma have a surface covering of villous processes; and *pure villous* tufts coexist in one-sixth of the sarcomata and in one-fourth of the epitheliomata.

Succulent Surface Growths.—I know of no certain guide arising out of the onset symptoms which would serve to mark the character of the growth, occurring after the age of forty-five. The electric cystoscope or the finger can only decide as to whether a papilloma or a succulent surface epithelioma is present. It is this failure in our clinical knowledge which causes me to urge an electric cystoscopy, directly an intermittent painless hæmaturia appears after the age of forty.

Infiltrating Carcinoma.—These are recognized by their onset symptoms, the detection of the hardness per rectum, and the exclusion of enlarged prostate and stone.

Diseases Simulating Benign Tumours.—There are four groups of diseases of the urinary tract which evoke symptoms similar to those produced by benign growth in the bladder, and although the electric cystoscope in an educated hand will render the diagnosis certain in the majority of cases yet the instrument is not always available. It is therefore advisable to enumerate them:—

(1,) Prostatic congestions in young men from excessive masturbation or sexual intercourse produce an intermittent symptomless hæmaturia.

(2,) Certain renal hæmorrhages, such as are produced by chronic contracting granular kidney (West, Bowlby), or by latent carcinoma of the kidney, need careful elimination by microscopical examination for casts and renal palpation, for they also induce a symptomless hæmaturia.

(3,) Urethral caruncle in the female often simulates a vesical papilloma.

(4,) In men over fifty a small uric acid calculus in an insensitive bladder, or lodged behind a prostate, produces a similar train of symptoms.

PROGNOSIS.—Presuming that the case is one of vesical growth, what circumstances should incline us to take a favourable view of the character of the tumour? Undoubtedly the length of time which the symptoms have lasted without inducing cystitis. If the bleeding has lasted for more than five years and the patient has not reached middle life there is every prospect of the tumour proving a pure papilloma.

On the other hand, when the patient has passed forty-five, when the onset hæmorrhage has resulted from some slight violence, when it is copious to begin with or rapidly becomes violent and resists the action of hæmostatics, there is a grave fear that the tumour is a succulent epithelioma of the mucous membrane. I must confess I am still further inclined to view its character with suspicion; when I learn that there is a family history of longevity, or that the patient has passed through some severe mental strain, or some exhausting illness such as epidemic influenza, prior to the commencement of the symptoms. A strong history of carcinoma in the family, or in the patient, may be present either with the benign or with the malignant growth. It should not bias us. I have removed growth from a bladder of one lady who had had two operations for carcinoma of the breast, and the tumour I ablated was a typical instance of pure fibro-papilloma. This was four years ago and she is still free.

INJUDICIOUS TREATMENT.—Now, it cannot be too strongly enforced, that the benign tumour and the succulent epithelioma before they have commenced to infiltrate, are both removable by operation, provided only that they are attacked in the favourable period of their existence. The former can be ablated with a fair chance of permanent cure, and the latter with a fair hope of an increased length of life. In both cases the operative removal can be carried out without danger, without mutilation, and without any fear that a fistulous and leaking wound will be left behind. But this promising result depends absolutely upon the manner in which the tumour has been treated by the medical man prior to the operation. If cystitis has been induced—and it often is

by the injudicious zeal of the surgeon in repeatedly sounding for stone, or by washing out the bladder to check a hæmorrhage—that is to say, if the third period of the existence of the growth has been artificially hastened, the patient's chance of a sound and speedy recovery after operation is greatly lessened, nay, more, his chances of a speedy recurrence are greatly increased.

It is worth while considering then, how cystitis influences the result of such an operation. When cystitis complicates a benign tumour, slight one-sided pyelitis is often also induced; for, as I have mentioned above, these growths are mostly situated over or around the ureteral orifice, and they obstruct and dilate the ureteral canal, which becomes readily inflamed by contiguity. Moreover, the wound left by the ablation heals slowly and sluggishly, and the hæmorrhage may continue for days after it should have ceased. The increased vascularity of the mucous membrane around the site of the growth fosters any tendency to recurrence which the tumour may possess. The suprapubic or perineal wound obstinately refuses to close. When cystitis has appeared in a bladder affected with succulent epithelioma, the pabulum of blood brought to the tumour, and therefore the rate of progress of the growth, is increased tenfold. The inflammatory wave attaches the movable and previously healthy base of the tumour to the muscular wall, and the latter becomes rapidly infiltrated. The operation wound probably will never heal, but will become more or less quickly implicated. It therefore behoves us in dealing with a case of symptomless intermittent hæmaturia to be very chary in the use of the catheter or sound. If it is considered necessary to employ the latter, let it be manipulated with the utmost care. No attempt should be made to separate or scrape off a piece of growth for examination, for in nearly every case the most gentle sounding will increase the hæmorrhage, and such roughness as this will change a controllable bleeding into a profuse and persistent loss, besides inducing cystitis. As regards washing out the bladder in order to arrest an alarming hæmorrhage or to remove a solid mass of blood clot which is causing retention, the instruments must be aseptic and the water employed *sterile*. Septicity introduced brings disaster on the patient and discredit on the practitioner.

TREATMENT. — This must be considered under two divisions: (*a*,) Palliative; (*b*,) Operative.

(*a*,) *Palliative Treatment.*—This will be mainly directed towards arresting the hæmaturia in the second stage, and in the later period to relieving the pain and irritability of the bladder by means of sedatives. In the earlier attacks of bleeding, any hæmostatic will

usually suffice—gallic acid, ergot, alum, iron, combined in every case with opium, may be tried. When the hæmorrhage has once become established, it is often most rebellious. In some cases it is so furious that nothing short of cystotomy and removal of the growth if it be benign, or of the surface of the growth if it is too far advanced for ablation, arrests it. It is, however, a grave question how far it is wise to arrest or check a profuse loss in a patient who has evident cancer of the bladder. The hæmorrhage often relieves pain, and the drain upon the strength curtails months of terrible suffering. As regards the alleviation of the pain and irritability of the confirmed bladder cancer, I regret that I can say but little. Two courses are open, either the exhibition of morphia, locally or hypodermically, gradually increased, or a cystotomy and permanent drainage to relieve the incessant and agonizing spasm, which the presence of urine and the muscular irritation of the invading growth evokes. Even this latter in advanced stages is frequently futile.

(*b*,) *Operative Interference.*—The advice I submit, which should be tendered to a patient concerning operative interference, should be controlled mainly by the presence or absence of cystitis, and by the condition of the wall of the bladder as felt through the rectum or vagina. Should any dense infiltrated patch be felt in the vesical muscle wall, operative interference for the ablation of the growth will be perfectly useless. If no infiltration can be felt and no cystitis is present, suprapubic ablation should be recommended. A patient from whom a benign growth has been removed by means of suprapubic cystotomy within a year or two of its second stage, may be assured of a rapid and usually of a complete recovery. The presence of cystitis adds the danger of prevesical cellulitis and delays the healing of the wound. If the base of the tumour as felt through the suprapubic wound be at all hard, a year of freedom from profuse hæmorrhage may be promised, though usually a slight and transient show of blood takes place after the end of six months.

The following case is an excellent example of what may be done in succulent epithelioma, even when the strength is exhausted by bleeding and the growth is of large size. The patient, aged fifty-four was brought to the London Hospital by my late dresser, Mr. C. A. Harrison. He was breathless from bronchitis and emphysema, debilitated and blanched by profuse and long-continued hæmorrhage. I removed a growth from the right side of the base of the bladder through a suprapubic incision. It was so voluminous as to fill a 6-ounce graduated glass. Within a week the tube was removed, and in three weeks he was presented at a clinical lecture

with the wound dry and almost healed. All the water was passing naturally.

I invariably recommend a suprapubic cystotomy in the male, if the patient shows "vis" enough to warrant the procedure. I have never removed a growth *thoroughly* through the perineal wound, unless it chanced to be pedicled and within easy reach of the finger.

The suprapubic operation is a very simple undertaking. I do not use either the Trendelenburg position or a rectal bag, for neither are ever necessary, unless pericystitis has been suffered from. A two inch suprapubic median incision, starting from the pubes, is made, the recti are separated, and the bladder, which has been previously distended, is hooked up, and a one-inch vertical incision is made into the viscus. Two blunt button hooks are then inserted, and the assistant holds the ends of the wound taut by these, while the operator slips a caisson * into the bladder and directs it towards the place where the growth has previously been seen, by means of the cystoscope, to be placed. The open end of the caisson is rested on the growth (*Fig.* 12), and the water is sucked out. A head lamp or mirror throws light upon the tumour, which is then twisted off or torn away piecemeal by means of long catch forceps. When all the surface of the growth has been removed the base is attacked. It is either snipped out by means of scissors, or cut away with a lance-pointed

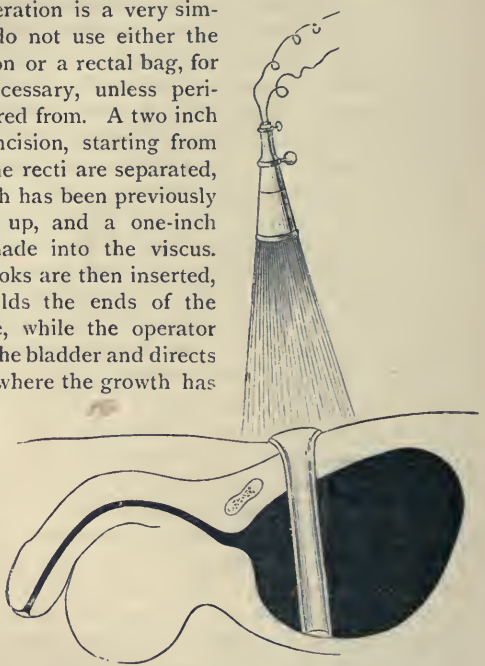


Fig. 12.—Section of Pubes and Bladder showing "Caisson" in position.

* Expanding caissons may be obtained from Krohne and Sesemann, Duke Street, London, or different lengthed or sized Ferguson's specula may be employed.

A "caisson" in engineering work is a chamber of iron or wood which is used in the construction of subaqueous foundations, such as those required for the piers of bridges. Caissons, often in the form of enormous hollow cylinders, are sunk over the sites selected for the position of the piers, until they rest upon the river bed, and sink into the softish soil by their own weight, or by ballast pressure. The upper end is above the river level. The water is pumped out until the cylinder is empty, and the excavation is then proceeded with as if on dry land.

knife. The hæmorrhage is checked by firm pressure of a sponge dipped in a solution of iron, and double drain tubes are inserted. The caisson is withdrawn over them, the bladder is washed out through the tubes and the patient removed to bed. In three days' time the tubes are removed, and in a week the patient is up. I only remember one case, viz., of carcinoma, in which the wound has not closed before the end of the third week.

The caisson method in my hand has proved of especial value in the very earliest stages of benign tumours, *where the growth was very small;* also in removing small sessile, secondary splashes of villous growth which are so often left behind untouched or unrecognized by the finger after the main piece of the tumour had been wrenched or scraped off.

It is to be recommended upon the following grounds: (1,) A small incision is quite sufficient; (2,) The continual passage of fingers, forceps, curettes, and sponges through the wound and bladder incision is rendered unnecessary, for the caisson once introduced is not removed until the stitches have to be inserted. All bruising and tearing of the bladder incision by these manipulations are thus avoided, and if cystitis is present, all chance of fouling the pre-vesical connective tissue is minimised; (3,) The growth, the whole growth, and nothing but the growth, is thoroughly removed; (4,) The smallest patches of primary or secondary growth can be seen and accurately treated, the caisson being shifted from place to place; (5,) The base of the growth can be cauterized by means of a galvano-cautery porcelain point with safety and certainty; (6,) Bleeding can easily be arrested before the patient leaves the table.

But I do not always use the caisson. Sometimes I drag the growth to the opening in the bladder and dissect it off the wall. In women, after careful dilatation of the urethra, I employ the same manœuvre. I seize the growth with the long narrow forceeps, bring it to the opening of the urethra, and dissect it off the muscle wall, or twist it off its base. An operator should never forget that a slovenly removal means an early recurrence, whether the tumour be benign or malignant.

The Writer's Results.—I have operated forty times with a definite object of removing tumours which I had diagnosed as being present. My first case proved a mistaken diagnosis, for the tumour was merely a small papillomatous-like tag coexisting with tuberculous disease. In another, a female case, I deemed it best to leave the tumour alone, but, probably with my increased experience and better methods of removal, I should not again hesitate to dissect a similar

growth away. It proved to be a very dense epitheliomatous ulcer. On thirty-eight occasions I have removed tumours. The perineal operation was performed four times, because the growth was near the urethral orifice; the female urethra was dilated in nine instances, and the suprapubic route was chosen twenty-five times. I regret to have to chronicle three deaths as the direct result of the operation. The patients were males, and two were the subject of a small but pure villous papilloma. The operation was easy in both cases, but both cases died of suppression. Unknown to me, both had had epidemic influenza three or four days before I operated. The third case was dying of hæmorrhage and advanced renal disease when I interfered.

Nature of the Tumours.—The microscopy of growth removed by operation is so unsatisfactory that I should not like to say how many of the cases were purely benign; probably twenty-five were benign growths.

Recurrences.—Two carcinomata recurred three months after a very thorough removal, but then cystitis was present in each when I operated. Both are dead. Four other cases have recurred and have been operated upon. All the cases, with the exception of the five cases I have mentioned, are living and in good bladder health. It is, however, too early too speak about "cure," for five years have not elapsed in any case, though one has already passed the fourth year in perfect health.

I attribute much of my success to a careful selection of favourable cases by means of the cystoscope, and here I would remark how very fully the character of that instrument has been vindicated by these results.

Not only have I only once cut into a bladder (my first case) to remove a tumour which did not exist, but I have been enabled to select, out of a hundred cases of vesical growth, those cases which repaid operative interference. Moreover, out of some hundreds of cases of obscure urinary disease, it has enabled me to select at least fifty cases of vesical growth the existence of which I should have been unable to pronounce upon with certainty without digital exploration. Much needless instrumentation and operation have thereby been avoided.

I may mention that I am much influenced, among other conditions, by the colour of the tumour. If the tumour surface be translucent and of a pinkish hue and it exhibits no signs of necrosis, I know that I am dealing at least with a growth in a favourable stage. The smoother the tumour the more I am inclined to suspect its deeper origin, for surface epitheliomata have a great tendency to produce a true villous

covering. If the tumour is white or greyish white I invariably diagnose malignancy. It is also extremely suspicious of carcinoma to see a powdering of white phosphate of lime upon a tumour which has only lately declared itself.

I submit from my own experience that I am justified in asserting that the removal of a growth of the favourable type from the bladder is a simple and safe operation. That danger, if danger exists, lies in attacking carcinomata in their advanced stage or in ablating tumours of a benign type which have been long enough in existence to cause serious renal changes from backward pressure or which have been suffered to enter the period of cystitis either by neglect or by maltreatment.

REFERENCES.—[1]Author, "Brit. Med. Journ.," April 14, 1888; Ibid., October 13, 1888; Ibid., May 9, 1889; Ibid., Oct. 18, 1890; [2]Cp., Author, "Prov. Med. Journ.," August 1, 1893, The Failure of Digital Exploration of the Bladder as a Diagnostic Procedure in certain cases of obscure Urinary Disease; [3]Cp. Report of Clinical Evening, Medical Society of London, "Brit. Med. Journ.," p. 1,111, Nov. 19, 1892, "Caisson" Working in Bladder Surgery; Cp., Author, "Brit. Med. Journ.," June 10, 1893.

BOILS.

The external use of **Chloral** is recommended very highly in the treatment of furuncles. The boil is to be kept covered with a compress soaked in a solution containing 4 drachms of chloral in 1 ounce each of water and glycerine.

REFERENCE.—"Med. Record," July 8, 1893.

BONE (Diseases of).

Synopsis.—(Vol. 1893, p. 95.) To decalcify and remove dead bone without operation, Morris injects **Hydrochloric Acid**, 2 or 3% solution in **Distilled Water**, using it every two hours if patient is confined to bed. At intervals of two days an acidulated **Pepsin Solution** (Distilled Water 16 ozs., Hydrochloric Acid 4 ozs., Fairchild's Pepsin ½ oz.) is thrown into the sinus to digest out the decalcified bone, which it takes about two hours to accomplish, and the whole process is repeated until the sinus closes from the bottom. Should free suppuration be present, the cavity is washed out with **Hydrogen Peroxide** before each injection.

BRAIN AND SKULL (Injuries of the).

William Thorburn, B.S., F.R.C.S.

Mumford[1] gives an analysis of three hundred cases of fracture of the skull, treated in the Massachusetts General Hospital, in which there are some interesting statistics. Of these cases one hundred and seventy (56·6 per cent.) died. The proportion of fracture of the vault alone to those of the base, or of the vault and base combined, is 165 to 135. Of the three hundred cases two hundred and seventy-

nine were compound fractures, and only twenty-one simple, but, as the writer points out, these figures are influenced by the difficulty of diagnosing the latter injuries. The mortality of the fractures of the base was 80 per cent.; that of those of the vault 37·5 per cent. The author dwells on the comparative rarity of death from septic troubles in basal fractures as well as in compound fractures of the vault, and insists that the uninjured dura mater presents a strong barrier to septic invasion—a conclusion which must be endorsed by all surgeons who have had much experience of head injuries, and have seen the rarity of suppuration after operation upon traumatic cases, in which the preliminary conditions of cleanliness were as unsatisfactory as possible.

Phelps[2] gives a long account and analysis of one hundred and twenty-four personal observations of head injuries, brief but useful notes being given of each case. The existence of discoverable lesions in all cases of so-called "concussion" is insisted upon, and the writer proposes to abolish altogether the use of the terms concussion and compression. Cases are also cited to indicate that contusions may be followed by suppuration apart from any wound or other lesion of the scalp, skull or meninges. Much stress is laid upon temperature changes as a diagnostic symptom. "Unconsciousness as an early symptom sometimes fails without apparent explanation in cases in which brain injury is undoubted. A variation of temperature, therefore, is the one invariable symptom, and if the patient has rallied from immediate shock, it is always an elevation." "The symptoms (of cerebral contusion or laceration) should be rated in order of constancy, elevation of temperature, unconsciousness, and acceleration of pulse." This elevation of temperature is assumed, from its constancy in the most varied lesions, "to be due to an affection of the cortex as a whole, and not to special lesions of localised heat centres." On this symptom we are chiefly to rely in the diagnosis from alcoholic coma, in which the temperature is subnormal; and from apoplexy, in which, at "the commencement of the attack, the temperature is subnormal; then it becomes normal, and remains at that point if the patient recovers, but if he dies it rises to a marked degree."

Miles,[3] whose experimental observations upon the effects of blows upon the head, were referred to in the last issue of the "Medical Annual," has continued his work by examining the results produced by blows in various cranial regions, and comparing these with clinical observations. He finds that, in animals, frontal blows, which give rise to a "cone of bulging" at the base, produce rapid death with tetanic convulsions and serious lesions of the ventricles, especially of the

fourth ventricle, and upper end of the cord. Blows upon the vertex have similar effects. Lateral blows may, on the theory of the writer, be expected to produce a more widespread disturbance of cerebral fluid than do frontal blows, "affecting in a proportionately mild manner almost all parts of the brain, as well as the intra-ventricular system." This expectation was borne out by the clinical cases, the subjects generally surviving longer and indicating the general disturbance by restlessness, violence, shouting, excessive talking, and other signs of irritation. In these cases the basal lesions, although present, were less marked than after death from frontal blows. Blows upon the occiput yielded somewhat conflicting results, but were less rapidly fatal than frontal blows owing to the cone of bulging being further removed from vital centres.

The same writer[4] has investigated the histological changes resulting from cerebral injury. The main conclusions are: "Colloid bodies" are derived from the myelin of medullated fibres; they are found only where such fibres exist, or in close proximity to blood-vessels, by which they have been carried to new positions. As they may be found when death has rapidly followed injury, they cannot be due to degeneration; they are attributed to the squeezing out of the medulla of the fibres, by the fluid wave derived from the "cone of depression" (*supra*). The patches usually described as "miliary sclerosis," are supposed to be due to a further transformation of the colloid bodies. Pigmentary degeneration of nerve cells is described as a common change in cases of compression, and is attributed to a change in the nutrition of the cell, resulting from pressure upon its nutritive channels. The condition has, however, been seen in cases in which death occurred within twenty-five and fifty hours after injury. The minute petechial hæmorrhages were also examined; in these the blood-vessels are generally congested and packed with corpuscles; the peri-vascular and peri-cellular spaces often contained blood corpuscles, and the brain tissue itself stains more deeply than usual, as if from condensation.

Dean[5] has made a number of experiments to elucidate the pathological results of cerebral compression, general and local. The former was studied by means of a manometer connected with the thecal covering of a spinal nerve root of a dog, and it was found that, normally, the cerebro-spinal pressure varies with the arterial pressure, similar curves being given by the tracings from a mercurial manometer in the carotid and from the above-described cerebro-spinal gauge. The author then studied the cerebro-spinal pressure as affected by: (1,) Alterations in the size of the "cerebro-spinal" [*i.e.*, cranio-vertebral] cavity; and (2,) Alterations in the volume of the brain and spinal cord.

(1,) When the capacity of the cranial cavity is diminished, as by compressing the skull, there is a general rise of pressure. Clinical experience has led to the view that this rise is at first trivial, and becomes suddenly augmented at a later stage. Dean's experiments, however, do not support this view, which is probably based on the fact that symptoms ensue suddenly.

(2,) The size of the brain may be taken to vary in direct proportion to the arterial pressure (Roy and Sherrington), and various experiments showed that the pressure of the cerebro-spinal fluid varied directly with the arterial blood pressure under nearly all circumstances.

Local Cerebral Compression.—The points specially investigated were the local changes produced in the brain at the seat of pressure; the differences resulting in the surface temperature of the two sides of the body, in cases of unilateral cerebral compression; and the changes in the pupil.

(1,) On introduction of a foreign body into the cranium the general pressure is raised, but this diffused effect tends to pass off, and may disappear entirely if the compression is slight. There remains, however, local interference with the brain, which most observers attribute to anæmia. That anæmia is the essential cause of the interference was proved by introducing through trephined openings small discs of glass, through which the paleness of the cortex was readily observed. This anæmia lasts for at least a fortnight. There is also local œdema, as we proved by excising compressed areas and estimating the proportion of water and of solids, as compared with the opposite (healthy) side of the brain. The compressed area gave an average of 3 per cent. more water than the healthy, and as it is deficient in blood this proportion yields an under-estimate of the œdema. To the sudden development of œdema is attributed the sudden onset of symptoms in cases of cerebral tumour, and, as the œdema itself tends to further increase the local pressure, it will be progressive.

Experiments were also made to determine the effects of removal of pressure. If the latter be maintained for short periods only, it has no after-effects; but if a disc be allowed to press upon the brain for from three hours to six days, certain changes occur. In all cases the removal of the disc is followed by a return of the cortex to its normal level, or even beyond it, and effusions of blood form in the deeper portions of the grey matter. There is then developed the inflammation which always results from the sudden re-entry of blood into anæmic regions, and with this we again get œdema. To this inflammation is attributed the condition of "progressive weakness and insensibility,

accompanied by fever and occasionally hyper-pyrexia and death within twenty-four hours," which may follow (clinically) upon relief of compression of the brain. It is suggested that failure to relieve symptoms after removal of pressure (by clots, etc.), may be due either to this inflammatory œdema or to the reverse condition of failure to re-expand, owing to cardiac weakness and consequent over-distension of the compressed vessels. In the first place it is advised to open the dura and allow the brain to expand, or, if necessary, incise the hernia cerebri thus formed; in the second, cardiac stimulants are recommended.

(2,) A series of observations were made on the variations of the surface temperature. In all cases the first effect of compression is to lower the temperature both superficially and in the rectum. If small discs were inserted into the cranium the surface temperature was higher in the axilla of the *opposite* side; if large discs were used, it was higher in the axilla of the *same* side as the compression. This is in accord with Bastian's clinical observations, that with a small hæmorrhage the temperature is higher on the opposite (*i.e.*, the paralyzed) side, but that if the hæmorrhage increases, this condition is reversed. The writer wisely refrains from dogmatising on the cause of these phenomena.

(3,) The condition of the pupils was observed in eleven experiments. In three cases, in which a small disc was inserted and the temperature of the opposite side of the body raised, the pupil on the injured side was contracted and inactive; that of the opposite side being of normal size. When a large disc was used (in four cases) the temperature of the opposite side of the body was the lower; the pupil of the injured side was widely dilated and inactive. The explanation given is that a small disc causes an irritative lesion, and the large one a paralytic lesion of the constrictor iridis.

Deuchar[6] undertook a series of experiments to ascertain the influence of the cerebro-spinal fluid upon the symptoms of general cerebral pressure. According to Bergmann these symptoms—slowing of pulse and respiration, coma, pain, etc.—are due to the tension of the cerebro-spinal fluid which results from any source of intra-cranial pressure. Adamkiewicz, on the other hand, holds that these symptoms are not the result of general or diffused pressure, and are independent of the tension of the liquor cerebro-spinalis. Deuchar produced pressure by intracranial injections of paraffin, introduction of laminaria tents, etc, and observed the results; first, when the cerebro-spinal fluid was not allowed to escape, and was therefore submitted to pressure; and secondly, when its tension was relieved by making an

opening in the posterior occipito-atloid ligament. It was thus found that the above symptoms might be produced even after all the fluid has escaped, but that the pressure required to evoke symptoms under these circumstances was much greater than when the cerebro-spinal sac was intact. Hence it is concluded that, although the diffusion of pressure by the fluid is competent to evoke the symptoms, they may, in its absence, result from the pressure of the brain substance itself. The clinical deduction is that symptoms of general cerebral pressure may be relieved by allowing exit of the fluid, but that such relief can be carried only to a certain point, after which pressure is communicated unreservedly by the nervous substance.

Kocher[7] contributes a most interesting study of concussion and compression of the brain. A case is recorded in which the patient died on the third day from concussion of the brain, with high fever and marked acceleration of the pulse and respiration. At the autopsy were found no inflammatory or septic changes, and no changes in the pons, medulla, peduncles, or cerebellum, so that the vagus, vasomotor and respiratory centres were uninjured. Numerous small extravasations were, however, found in the corpus callosum, wall of the left ventricle, anterior part of the left optic thalamus and frontal lobe, and in the anterior part of the right optic thalamus. To these lesions are attributed the persistent hyperpyrexia, and experiments are quoted, showing that fever is caused by injury of the anterior part of the corpus striatum, and rapid respiration by injury of the testes of the corpora quadrigemina and of the sensory nuclei of the fifth nerve. It is suggested that this form of fever, due to lesion of the great brain might be relieved by administration of antipyrin and morphia, as in some experiments of Gottlieb. There follows a long discussion of the method of production of the lesions which are found in concussion of the brain. The latter is defined as laceration of particles of the brain spread over a wide area, from the distribution of the impulse by the brain substance as well as by the cerebro-spinal fluid ; and the method of this distribution is fully discussed. The observations of Kocher and of Deuchar are interesting when compared with those of Miles (*supra*), as the German writers attach more importance than does the latter to communication of impact through the brain substance itself.

With regard to the symptomatology of compression, it is noted that the best recognized symptoms, viz., slowing of pulse and respiration, may be totally absent in the most common form—middle meningeal hæmorrhage. Such a lesion may give rise only to spastic or paralytic symptoms without the "general symptoms of compression," which are usually described.

Adamkiewicz[8] made numerous experiments to ascertain the action of various antiseptics upon the cerebral parenchyma of animals. As a result of injection of solutions, he concluded that corrosive sublimate and carbolic acid were dangerous, and advises a 3 per cent. solution of boracic acid for washing exposed brain matter.

Smart[9] relates the case of a woman who received a blow near the right parietal eminence, and presented paralysis of the left facial nerve, left arm, and to a less degree, the left leg, with left homonymous hemianopsia and slurring speech; coma and Cheyne-Stokes respiration ensued, and the patient was moribund. Prof. Chiene now trephined in two places on the right side of the skull, but no lesion was reached. The diagnosis was hæmorrhage into the right base, and therefore it was not expected to discover any clot. By means of the operation, however, a rapid improvement was effected in the breathing, especially after incision of the dura, from which protruded the very tense brain. In a few hours the patient regained consciousness, and she eventually made a good recovery, except for the persistence of left hemiplegia and hemianopsia. The result is thus to be attributed entirely to relief of tension, and similar operation is urged in cases in which direct access to the lesion is impossible.

Many other interesting cases have been recorded during the year, but as a rule the communications in which they appear are not capable of useful summary.

REFERENCES.—[1] "Boston Med. and Surg. Journ.," Feb. 9, 1893; [2] "New York Med. Journ.," Jan. 14, *et. seq.*, 1893; [3] "Laboratory Reports," Edinburgh Royal College of Physicians, vol. iv.; [4] "Journ. of Pathology and Bacteriology," May, 1892; [5] "Journal of Pathology," Jan., 1892; [6] "Deutsche Zeitschrift für Chirurgie," vol. xxxv., p. 145; [7] Ibid., p. 433; [8] "Deut. med. Woch.," No. 2, 1893; [9] "Edinburgh Hospital Reports," 1893.

BRAIN (Surgery of the). (See also "Injuries of the.")

William Thorburn, B.S., F.R.C.S.

The greatest activity in this department of surgery appears to have been manifested in the treatment of idiocy by "craniectomy" or "craniotomy." Bourneville[1] gives a very full account of the present position of the subject. After a brief historical introduction, he proceeds to analyse eighty-three reported cases. Of these fifteen died, and in several the operation was followed by convulsions or limited paralysis. Of those which survived, the descriptions both before and after operation are, as a rule, too meagre to allow of a satisfactory judgment as to the result. Cases of idiocy are divided into the following groups: (1,) Associated with hydrocephalus; (2,) Associated

with microcephalus ; (3,) From arrest of development of convolutions ; (4,) Arising from cerebral malformation (porencephalus, absence of the corpus callosum) or disease (cysts, etc.) ; (5,) From hypertrophic sclerosis ; (6,) From atrophic sclerosis ; (7,) From meningitis ; (8,) Cretinism ; (9,) Idiocy from cerebral tumours. Cases are recorded, with numerous illustrations of the brains and skulls, illustrating these forms, and it is clearly shown that there is, as a rule, no premature sutural synostosis, so that the original theory, viz., that operation was to allow a confined brain to expand, is untenable. Further, it is impossible to recognize during life those cases in which there is really premature synostosis. And, again, the surgical openings are shown to have no practical effect in allowing of increase in the size of the brain. On these grounds the operation is discountenanced, and treatment by careful instruction and attention to health is advocated. The paper, based on M. Bourneville's extensive experience at the Bicêtre, forms an elaborate and powerful indictment of the operation.

Gray,[2] on the other hand, starting from premises similar to those of Bourneville, arrives at an opposite conclusion. He admits that it is useless to operate upon the majority of the cases—those in which there is organic disease or maldevelopment of the brain, but considers that surgical intervention is of value in three classes of cases, viz., premature ossification, recent traumata and hæmorrhages. The two latter he would diagnose by careful inquiry into history, the first by exclusion of other conditions, such as those mentioned by Bourneville, most of them being readily recognized. Several cases are recorded which are said to have been satisfactory. Gray pleads also that we must not expect improvement after operation to be very rapid, as "an infantile brain, arrested in development from any cause, must necessarily, even when the cause is removed, develop more slowly than a normal cerebrum."

The above papers constitute excellent summaries of both sides of the question, and for accounts of recent cases the reader may be referred to Barlow,[3] Nuijens,[4] and Aakermann[5] who clearly regards operation as tentative only, and admits the difficulty of diagnosis ; Kurz,[6] and others, most of whose observations do not, as yet, carry the discussion much further.

In most other branches of cerebral surgery, little or no advance has been made during the past year, although many cases are recorded. There has, however, appeared an admirable summary of the present position of the subject in the form of a work on "Brain Surgery," by Allen Starr (New York, 1893).

REFERENCES.—[1] "Progrès Médical," June 24, 1893; [2] "Amer. Journ. Med. Sci.." June, 1893; [3] "Glasgow Med. Journ.," June, 1893; [4] "Ann. de la soc. de méd. d'Anvers," June, 1893; [5] "Sémaine Méd.," July 26, 1893; [6] "Weiner med. Presse," No. 43, 1892.

BREAST (Fissured Nipples).

Marx[1] discusses the treatment of the nipple in the gravid and puerperal states in an exhaustive paper. His advice to his patients is as follows: "Stop wearing corsets, if possible; instead, wear a corset-cover to support the breast. Protect the nipple with plenty of absorbent cotton, and forget you have a nipple. Nothing more, unless the nipple is inverted, and then gently drawing it out three times a week by means of a breast-pump will remedy that effect." When the nipples are tender and sore, no other measure is recommended than the application of a 10 per cent. **Ichthyol-lanolin** salve. This in a few days heals the parts perfectly.

After confinement, should there be any signs of commencing fissure, the measures to be adopted are: (1,) Insure support and rest to the organ by a firm binder with holes for the nipples, to allow their exposure for the escape of milk and application of remedies; (2,) Diminish the frequency of nursing as much as possible, even to the extent of temporary weaning, in order to allay both local and general irritation. Frequent nursing delays healing of the lesion; (3,) As a palliative measure, a 5 or 10 per cent. **Cocaine Solution,** applied shortly before putting the child to the breast, will certainly insure perfect freedom from pain. If the nipple be generally tender, without a break in the continuity of the surface, a 10 per cent. **Ichthyol-lanolin Ointment** has given the best results. When fissures or erosions are present, having an unhealthy, uneven, deep-seated, sloughy appearance, a thorough cauterization with lunar caustic, or better still, a brisk curetting with a small dermal curette preceded by cocaine to quiet pain, and followed by some stimulation, as by the ammoniated mercury ointment, balsam of Peru, or aristol in substance, or other antiseptic drug, is all that is necessary. Where there is a deep-seated, healthy ulcer present which fails to heal in spite of all our remedial agents, the passage of one or more fine sutures might prove the ideal method of treatment, if combined with perfect rest for thirty-six hours and firm breast compression.

No severer irritant can be applied to the nipple than a bichloride wash or carbolic solution, no matter how weak they may be. The breast and nipple show a decided antipathy toward these antiseptics, and they should never be used. Should it be desirous to use an antiseptic solution, a 1 per cent. **Creolin** or **Thiersch Solution** could be

recommended. The ichthyol ointment used is 25 per cent. in strength. It should be constantly applied. The formula recommended by Oehren in the "Therapeutische Monatschrift," No. 2, is:—

℞ Ichthyol 4·0 | Olei Olivari 1·0
Lanolini et Glycerini āā 5·0 |

The advantages he claims for this ointment are that it soon checks the excruciating pains of suckling; the fissures rapidly heal, without taking the child from the breast and without necessitating the use of nipple shields; owing to its consistency the salve can be easily and thoroughly washed off. The salve is non-poisonous, and even if the nipple be not washed off, no harm is done the child.

As soon as a mastitis threatens, apply firm, even compression by means of a binder of strong cheese-cloth. A roller bandage, so much in use in former years, should not be applied, because the pressure is not uniform and certainly predisposes the formation of lumps in the breast. Under no condition should the inflamed breast be rubbed or massage instituted; no matter how gently done, it increases the irritation and general inflammatory trouble. The corresponding arm should be tied to the side, nursing should be postponed for a number of hours, and absolute rest should be insisted upon. Locally, Marx uses nothing but iced lead-water applications regularly applied. Internally, the patient is given one large dose of **Iodide of Potash,** 3 grains in seltzer or milk. To increase the depleting action of this drug, ℥j of **Sal Rochelle** is given hourly until the patient has a number of large watery evacuations.

Dr. F. V. Allen[2] advocates the painting of the nipples several times a day with the **White of an Egg.** This soothing albuminous covering forms a delicate film over the abraded nipple, and the surface is soon —within a few hours except in severe cases—entirely healed. The application is best made just after nursing, while the nipple is still moist from the child's mouth; and it should be allowed to dry on thoroughly before drawing the clothes again over the breast.

The following is recommended as an anti-galactagogue[3]:—

℞ Camphor 1 part | Essent. Terebinthinæ 6 parts
M. Sig.—To be applied to the breast.

Paget's Disease of Nipple.—Drs. Gamberini and Maroni,[4] of Bologna, applied a 10 per cent. solution of **Ethylate of Sodium** with beneficial effects in Paget's disease.

Elliot[5] relates a case of Paget's disease in which remarkably good results were obtained by the application of a **Fuchsin Ointment.** The raw exuding patches healed, the entire surface becoming transformed into an area covered with a thin epidermis, cracked and fissured in

places, with only a few points of exudation here and there. The characteristic granular appearance had become cicatrised in a space of from half-an-inch to one inch around the affected part, the infiltration and scaling having completely disappeared and been replaced by a more or less pigmented surface. The formula employed was : fuchsin (chemically pure), 2½ grains ; lanolin, 1 ounce ; aq. rosæ, 7 drachms. The ointment was spread one-eighth inch thick on stout linen accurately applied to the part, and a thin layer of absorbent cotton was put over it. The dressing was changed twice a day. The strength of the fuchsin was increased gradually ; but it was found that if more than 5 grains were incorporated in the ointment irritation was caused.

REFERENCES.—[1] "Med. Record," Feb. 11, 1893 ; [2] Ibid.; [3] Ibid.; [4] Gamberini and Maroni, "Semaine Médicale," Aug., 1892 ; "Brit. Med. Jour.," Nov. 19, 1892; [5] Elliot, "Jour. of Cut. and Gen. Urin. Dis.," Sept., 1892.

BRIGHT'S DISEASE (On Diet in Chronic).

Robert Saundby, M.D., F.R.C.P.

Our ideas regarding the pathology of Bright's disease having undergone some modification during the last twenty years, it is natural that our treatment, so far as that was based upon theoretical considerations, should be changed too.

The great fact that dominated the earlier conceptions of Bright's disease was albuminuria. If we would rightly understand the path by which we have reached our present standpoint, we must realize that at and for many years after Bright's time the term albuminuria denoted a morbid condition, which was explained by the existence of certain changes in the kidneys, and the amount of the former was taken to be the measure of the extent of the latter. It is only within the last twenty years that we have succeeded in some degree in disestablishing albuminuria and in reducing it to its proper position as only one of the symptoms of kidney disease, by showing that it may exist without visible structural change in those organs, and that it may be absent or nearly absent, though advanced changes are present. It is now known with certainty that albuminuria occurs not uncommonly under a variety of conditions in which there is no alteration of the kidneys to which we can with any propriety apply the term Bright's disease, and further that the amount of albumen is neither directly nor indirectly a measure of the renal changes even in Bright's disease. Therefore we no longer estimate the worth or success of our treatment solely or mainly by its influence on the albumen in the urine.

Furthermore, we no longer dread the "drain of albumen from the system." We know that the total amount excreted even in the worst cases rarely exceeds half-an-ounce of dry albumen *per diem*, an amount which is much less than is lost in many other conditions not regarded as very grave, and which experience has shown to be well supported and not a source of danger to the patient. There are now on record a considerable nnmber of cases in which albuminuria has lasted twenty years or more without visibly impairing the patient's general health and nutrition. Finally we have realized that kidneys damaged by inflammation permit the passage of serum albumen for a long time after the cessation of the inflammatory process, and we no longer look upon albuminuria as evidence of an inflammatory exudate, but of an alteration, transient, persistent, or even permanent in the walls of the renal blood vessels. We recognize that Bright's disease, in its acute form, when it attacks previously healthy organs, is a highly curable disease, and that there are forms of chronic disease, such as that following repeated pregnancies, where the recurrence of the cause being avoided the kidneys regain their normal function, and the patient continues in good health, even though the kidneys remain permanently damaged in structure. Our grave prognosis is reserved for two classes of cases, those in which the structural changes are excessive, and those in which we are unable to remove the persistent and efficient cause. We judge of the amount of renal disease, not by the albuminuria, or even by the tube casts, though these are of importance, but by the evidence of cardio-vascular and retinal changes and the general constitutional state. For the other element in prognosis we seek to determine the cause of the malady, and it is in those pronounced cases of advancing chronic Bright's disease of constitutional and somewhat obscure origin, which have been called "gouty," though there is very often no definite gout, or "lithæmic" without either precise evidence of lithæmia, or of its power to work this mischief, of which we see the best concrete analogue in the poisonous action of lead on the kidneys, and which might be fairly enough called chronic toxæmic Bright's disease, if we admit that the nature of the active poison remains still uncertain, which constitute the bulk of the group of chronic Bright's disease. These are cases which are undoubtedly grave, which are liable to numerous, serious and often fatal accidents; yet of which not an inconsiderable number last so long as to make it necessary to establish a tolerable mode of living, and about which there has been of late some very just criticism of the older views respecting their dietetic management.

This criticism has in the main taken the form of a revolt against milk diet.

Of course nothing is so simple as a hard and fast rule ; "Bright's disease, milk diet," is a formula easily learnt and easily remembered ; and it is indisputable that such simple formulæ are very popular with the profession, easily take hold of their minds, and are very hard to uproot. It is probable that the popular acceptation is always a slight exaggeration in its simplicity of the actual doctrine originally taught, but however this may be, milk diet has been extensively and almost exclusively recommended as the proper regimen for the subjects of Bright's disease, not only as a negative diet, that is, as one which excludes other and injurious aliments, but as a positively beneficial treatment. "Take as much milk as you can, the more the better," is the common form. A case of mild post-scarlatinal albuminuria came under my observation lately, which had been taking, under medical advice, five quarts of milk daily !

Let it be frankly admitted that the proper diet for acute Bright's disease is milk, with the addition of a certain amount of farinaceous food, which supplies the alkalies so necessary to the body, and that this diet should be only gradually and cautiously increased by adding vegetables and fruit, eggs cooked in various ways, and light meats as convalescence progresses. But where the chronic stage is established, or in those cases which have begun insidiously and are always chronic, this diet is out of place, unless during the supervention of an intercurrent acute attack, when the case must be treated temporarily like one of primary acute nephritis.

A case of chronic Bright's disease cannot be cured ; we must treat the patient and not his malady ; we have to consider all his symptoms, the state of his digestion, his habit of body, his mode of life, and to arrange a diet suitable to all these. We cannot draw up a printed dietary for Bright's disease as we do for diabetes, and hand a copy to each patient. In attempting to formulate a general rule, I can get no further than this : *Eat very sparingly of butcher's meat ; avoid malt liquors, spirits, and strong wines.*

Obviously in some cases we must exercise more restraint. Where there are any of the so-called uræmic symptoms, especially persistent headache, all butcher's meat had better be forbidden. Gastric catarrh, which is a very common complication, calls for the elimination of all uncooked fruit and vegetables, and a choice of the softer and more easily soluble articles of food, with a warning to eat only very well cooked farinaceous food, *e.g.*, toast and rusk in preference to bread. Stout people should be put upon a definite allowance of food, and

their body-weight noted and kept as far as possible within reasonable limits. Persons leading sedentary lives should have less bulky food than those who are able to take a good deal of exercise, and this must take the form of animal food of a light kind. Warnings against butcher's meat must of course be made to include meat soups, especially beef tea, which should never be given to any one suffering from Bright's disease, but albuminous food should not be regarded as dangerous if it is free from extractives. Gelatine and isinglass, white fish, chicken and sweetbreads, are all admissible.

Fat bacon is an article of diet much used in many parts of the country, and is not at all objectionable if the stomach can tolerate it. With respect to drinks, I generally allow tea, coffee and cocoa, unless there are digestive difficulties, when cocoa may have the preference; but some patients complain of coffee causing lumbar pain, probably caused by the very decided diuretic effect of caffeine.

Alcohol should be taken very sparingly, only red or white Bordeaux wine, preferably diluted with alkaline mineral water.

In conclusion, and as a summary of the views I wish to express, let us think of milk diet as the *ultima ratio*, something we can always fall back upon when danger looms ahead, but not in itself a good or even useful regimen when the patient can with satisfaction to himself, and safety so far as his general symptoms indicate, take a more varied and therefore more agreeable, less bulky, and more sustaining diet.

BRIGHT'S DISEASE (Therapeutics of).

Dieulafoy [1] contends that certain trivial symptoms are, when taken in combination, of great value in establishing the diagnosis of Bright's disease even in the absence, more or less prolonged, of albuminuria. The minor symptoms which he describes belong to the following classes: (1,) Auditory: high or low pitched noises in the ear, constant or occasional, accompanied by some deafness and liable to be mistaken for Menière's disease when occurring together with (2,) Vertigo, intractable to most forms of treatment but relieved by milk diet; (3,) "Dead Finger"; the patient experiences formication in the finger, which becomes exsanguine, pale, and insensible; this persists for a few minutes or a quarter of an hour, and occurs generally in the morning; sometimes several fingers are affected, sometimes the whole hand; sometimes it affects the fingers of both hands symmetrically; it may be the earliest symptom; (4,) Itching: frequently intense, and then a source of great discomfort; (5,) Pollakiuria: frequent desire to micturate due to a specific irritability of the bladder; it may be accompanied by, but is independent of, polyuria, and is often an early symptom; (6,) Eryæsthesia: a special sensibility to cold on the

surface, so that the patients wear many wraps but never feel warm ; the lower limbs (knees, legs, and feet) are especially liable to be thus affected ; sometimes only one limb or part of a limb suffers ; (7,) Cramps in the calves : very painful, occurring chiefly at night, and waking the patient out of sleep ; (8,) Slight morning epistaxis ; (9,) "Electric shocks," a clonic convulsion occurring at the time of falling asleep ; (10,) "The temporal sign" ; prominent tortuous temporal arteries due not to atheroma but to high tension. These minor symptoms may be present while well-marked symptoms of Bright's disease have not yet developed. Taken separately these minor symptoms have little significance, but when several are present their diagnostic value may be very great. They may exist at a period when no albumen is present in the urine, and in any case a patient suffering from Bright's disease is in danger, not because he passes a little albumen in the urine, but because the kidneys fail to separate from the blood and excrete in the urine poisonous bodies, formed mainly by the liver. In a few rare cases these minor symptoms of Bright's disease are due to syphilitic disease of the kidneys, and disappear in some cases under treatment by **Mercury** and **Iodide** combined, according to M. Dieulafoy, with a **Milk Diet.** In a certain proportion of cases of chlorosis these minor symptoms are present, and these resist ordinary treatment by iron, but yield to dieting ; in such cases albuminuria may or may not be present. If neglected or incorrectly treated, well marked incurable chronic renal disease may develop.

Dr. H. B. Millard[2] points out that there are, of course, cases in which the kidney is far beyond the condition in which treatment can possibly do good, and he details several cases in which treatment was followed by very extraordinary results. The patients are placed upon full doses of the **Iodide of Potassium,** and in addition take **Fowler's Solution** in large doses, with **Corrosive Sublimate ;** or, in other cases, the **Protiodide** and **Biniodide of Mercury.** He regards mercurial preparations as absolutely indispensable, and has used with great success **Ergotinine, Caffeine, Strophanthus, Sparteine, Arsenic,** and the various preparations of **Iron.** He also believes **Nitro-glycerin** and **Strontium** to be of similar value. If uric acid exists in excess he neutralizes it by means of **Vichy, Vals,** or similar waters, and also employed **Piperazin-water** with **Phenocol.**

He sends his patients to Evian, Vichy, or Royat, and if the hepatic functions are greatly deranged, to Carlsbad, Marienbad, or Vichy.

According to Huchard,[3] **Digitalin** in large doses does not produce untoward effects in the various renal affections ; on the contrary, it is useful, and often diminishes the amount of albumin, not only in cardiac

albuminurias but also in those occurring in parenchymatous nephritis. No matter what the nature of the cardiopathy, whether hyposystolic or asystolic, the bad effects attributed to digitalis are never observed if the following method of administration is adopted : The path to the action of digitalin must from the beginning be made clear. Thus, the patient for a few days previously must be subjected to a diet of milk and absolute rest. A certain amount of diuresis is obtained through these two simple measures. A purge is then administered, and on the following morning ·50 drops of a solution of crystallized digitalin, of the strength of 1 to 1000, is to be given once only, followed by the ingestion of 1 milligramme of the crystallized digitalin. After this we must wait for from six to fifteen days before applying the same measures and drug in exactly the same manner described, especially if the indication persist.

Toxic Nephritis.—Lancereaux [4] divides the diseases of the kidneys into the affections : (1,) Of the epithelial elements ; (2,) Of the connective tissue ; (3,) Of the vessels ; and (4,) Of the nerves. He considers that all forms of epithelial nephritis are the result of the elimination by the kidney of a toxic or an infectious agent. Although the effects of most poisons are localised in the epithelium of the kidneys, and affect but very slightly the connective tissue and vessels, there are some, such as lead, which affect more particularly the connective tissue. The toxic nephrites in which the lesions are limited to the epithelium, present certain common characters, independently of the diversity of their origin. With regard to the nephrites caused by phosphorus, arsenic, antimony, chlorine, bromine, iodine, oxalic acid, nitric acid, caustic alkalis, corrosive sublimate, and cantharides, he points out that the clinical symptoms, such as decrease in the quantity of the urine, albuminuria, and occasionally uræmia, are common to them all ; and observes that we may therefore conclude that toxic nephritis is actually a result of interference with the function of the epithelium lining the uriniferous tubes, since they eliminate from the blood the various excrementitious principles. The diagnosis of these forms of nephritis depends upon the physical, chemical, and histological examination of the urine ; that of their effects upon the recognition of the symptoms of uræmia, which are distinct from those due directly to the action of the toxic substance. The prognosis depends upon the amount of urine passed in twenty-four hours, and the quantity of blood and albumen which it contains. The more prolonged the disease, the greater is the chance of repair taking place. The best aim of treatment is to find a substance which, eliminated by the kidneys, can do a kind of substituted work in the epithelium, or a substance capable of acting after the

manner of turpentine, which in twenty-four hours causes indigo to disappear from the urine of the horse. When the poison has been neutralised, and its immediate effects combated, it remains for us to treat the effects of the renal lesion, namely, troubles produced by urinary insufficiency. An exclusive diet of **Unboiled Milk**, by reason of its diuretic properties, and perhaps also on account of its action upon the renal epithelium, is the most appropriate. If this does not succeed, **Drastic Purgatives** are indicated, together with the use of **Diuretics.**

The same author[5] expresses his conviction that **Tincture of Cantharides** is a valuable agent in the treatment of epithelial nephritis. He gives notes of two cases in which it was used in daily amounts of 6 drops to begin with, increased to 10 or 12. He thinks the drug acts by controlling the tendency to tumefaction of the epithelium of the tubuli contorti, and thus obviating anuria.

For chronic Bright's disease with failing heart the following formula is advised[6]:—

℞ Tincturæ Digitalis ♏x | Aquæ Chloroformi ad ℥ss
Liquoris Trinitrini, ♏j ad ♏ij |
Misce et fiat mistura. Sig.—A tablespoonful three times a day.

REFERENCES.—[1] "Bull. Académie de Médecine," June 6 and 20, 1893; [2] "Med. Record"; "Therap. Gaz.," March 15, 1893; [3] "Rev. de Thérap. Méd. Chir.," May 15, 1892; "Therap. Gaz.," Oct. 15, 1892; [4] "Medical Press," Sept. 28, 1892; "Pract.," Dec. 1, 1892; [5] "New York Therap. Rev.," No. 2; [6] "Practitioner," June, 1893.

Synopsis.—(Vol. 1893, p. 104.) For dyspnœa of advanced cases Graham Steele advises carefully regulated **Low Diet**, frequently repeated **Saline Laxatives** with **Digitalis** or **Caffein.** Washburn advocates **Morphine** in cases of uræmia where convulsions, renal asthma, and severe headache are present, giving ⅛ gr. doses hypodermically, and carefully watching the effect.

BRONCHIECTASIS.

Prof. Grainger Stewart has obtained satisfactory results from the intra-laryngeal injection of the following:—

℞ Menthol 10 parts | Olive Oil . 88 parts
Guaiacol 2 parts | M.
Sig.—℥j to be injected into the trachea twice a day.

The result was a speedy diminution and disappearance of the fœtor, with improvement in all respects.

REFERENCE.—"Brit. Med. Jour.," June 3, 1893.

BRONCHITIS.

Acute.—Wilcox[1] recommends the use of **Cocillana** in acute bronchitis, also in subacute and chronic forms, preferring it to ipecacuanha, apomorphia and other expectorants. It requires from three to six hours to act, but the effects are proportionately persistent. The appetite

increases under its use, and frequently a laxative effect is obtained. In senile bronchitis it is contra-indicated, as it is liable to increase the bronchorrhœa. In chronic disease of pulmonary tissue, cocillana often does good service by liquifying the secretion and relieving acute exacerbations. Wilcox uses the fluid extract or a syrup, the dosage of the former being 5 to 25 minims, and of the latter 1 to 2 fluid drachms every three to six hours, or the following prescription may be adopted :—

℞ Extracti Cocillanæ Fluid. | Ext. Lippiæ Mexicanæ āā ℥ss
M. Sig.—30 drops in a wineglassful of water every four to six hours.

If vomiting is set up, the dose is excessive, and must be decreased, as the expectorant and emetic effects of the drug are quite distinct from one another.

Murrell[2] again calls attention to the use of **Terpene Hydrate** in bronchial affections. He employs a solution containing 5 grains to the ½ ounce, made up with simple **Elixir**, and flavoured either with **Tincture of Virginian Prune** and **Syrup of Tar**, or with the **Aqua Laurocerasi.** He finds that cough is relieved and bronchial secretion lessened under its use.

Ferrand[3] recommends the following prescription for the treatment of chronic bronchitis with inflammation :—

℞ Purified Tar gr. xv | Powered Benzoin. q.s. to make 20
Dover's Powder gr. xxij | pills.
Sig.—From 1 to 4 of these may be given each day.

Twice a week a purgative should be administered. Counter-irritation should also be applied to the chest by means of **Ammonia.** It may also be useful for the patient to inhale the fumes of **Muriate of Ammonium.**

For Irritable Cough [4] :—

℞ Acidi Hydrocyanici diluti ℥iss | Syrupi Pruni Virginianæ ℥iv
Morphinæ Acetatis gr. iss | Aquam ad ℥vj
Mucilaginis Acaciæ ℥j
Misce et fiat mistura. A teaspoonful to be sipped every four or six hours.

A Valuable Counter-Irritant in Diseases of the Chest [5] :—

℞ Aceti Cantharidis ℥ij | Spiritum Camphoræ ad ℥j
Misce et fiat linimentum. Apply to the chest at bedtime until redness is produced.

For Chronic Bronchitis and Emphysema [6] :—

℞ Ammonii Carbonatis gr. iv | Tincturæ Nucis Vomicæ ♏x
Tincturæ Scillæ ♏xx | Infusum Serpentariæ ad ℥j
Spiritus Ætheris ♏x
Misce et fiat mistura.
Sig.—2 tablespoonfuls every six hours.

REFERENCES.—[1] "Therap. Gaz.," June, 1893; [2] "Brit. Med. Journ.," March 4, 1893; [3] "L'Union Méd.," July 18, 1892; [4] "Pract.," March, 1893; [5] Ibid.; [6] Ibid.

Synopsis.—(Vol. 1893, pp. 9, 15, 16, 43.) **Phenate of Cocaine** may be used in an atomiser for bronchial affections, $\frac{1}{8}$th of the following solution being used during the day: ℞ Cocaine Phenate gr. jss, Menthol gr. iv, Dilute Alcohol ℥ijss. Cullen uses **Anemonin** $\frac{3}{4}$ to $1\frac{1}{2}$ grs. in bronchial catarrh. **Tincture of Cantharides,** $\frac{1}{2}$ to 2 drop doses, is useful for the vesical paralysis occurring in chronic bronchitis of the aged. **Catramine** is indicated in chronic respiratory troubles with abundant secretion.

BUBO.

Lydston[1] states that the prophylaxis of bubo lies in thorough cauterization of the chancroid, the avoidance of irritants, and the maintenance of as complete rest as practicable in all urethral or genital lesions. He holds that it is the duty of the surgeon to extirpate the glands in every case in which distinct enlargement occurs and persists for several days in spite of rest and poulticing. In most cases after early excision of the glands healing is primary and prompt, and when it is not so it is because operation has not been resorted to promptly. When suppuration has actually taken place and periadenitis exists, free incision and curretting is demanded. If the bubo is non-virulent, suturing is justifiable if due antisepsis be observed. Virulent bubo in full suppuration requires thorough cleansing with **Peroxide of Hydrogen; Cauterization** with pure **Bromine** or **Carbolic Acid.** When granulation is well advanced, secondary suturing is admissible. For dressing granulating buboes **Balsam of Peru** is advisable.

Jacobson[2] recapitulates the abortive treatment of bubo by the local use of **Iodine, Mercurial Ointment** or **Plaster,** blistering the groin, applying a bag of shot, salt or sand, or bandaging a large dry sponge tightly over the tumour, and then moistening the sponge to secure compression; the injection of 5 to 10 minims of a 2 per cent. **Nitrate of Silver Solution** may even arrest commencing suppuration. Jacobson states that buboes found below the fold of the groin are due to some irritation of the lower extremity, such as ingrowing toe-nail, inflamed bunion, ulcer of leg, etc. These may be treated by **Compression, Iodine,** etc., together with the removal of the cause.

The abortive treatment of bubo by the Wielander[3] method consists of an injection of 15 minims of a 1 per cent. solution of the **Benzoate of Mercury** into the bubo, followed by compression. Wielander and Letnik succeeded in preventing suppuration in 90 per cent. of the cases treated.

Brousse[4] tried this method in five cases, and succeeded in only one. There is always a more or less marked local reaction, and generally a

systemic disturbance, characterized by headache, fever, loss of appetite, and a general feeling of discomfort.

Otis[5] adopts the following treatment for suppurating buboes. The skin around the affected part is first rendered aseptic by scrubbing with soap and washing with **Sulphuric Ether,** and then **Bichloride of Mercury Solution,** 1 in 1,000. A narrow bistoury is next inserted into the suppurating part, and the contents well squeezed out. The cavity is now irrigated with a solution of **Mercuric Chloride,** 1 in 1,000, and immediately filled to moderate distension with warm **Iodoform Ointment** (10 per cent.), introduced by means of an ordinary conical-pointed glass syringe. Care must be taken not to apply heat sufficient to liberate free iodine. On withdrawing the syringe from the wound, a cold compress, wet with bichloride solution, is applied, which solidifies the ointment at the orifice. A large compress of bichloride gauze is then applied and held in position by a spica bandage. Otis claims for this procedure: (1,) That it is simple and safe; (2,) In suitable cases cure as a rule seems to be more rapid than by any other method; (3,) The patient is not prevented from going about during treatment; (4,) The first gland being rendered thoroughly aseptic, other glands in the chain are less liable to become infected; (5,) No scar is left; and (6,) It does not interfere with the performance of any subsequent surgical procedure which may be requisite.

REFERENCES.—[1] "Times and Register," vol. xxvi., No. 10; [2] "The Clinique," May, 1893; [3] "Therap. Gaz.," May, 1893; [4] "Montpellier Med.," No. 7, p. 133, 1893; [5] "Journ. of Cut. and Gen. Urin. Dis.," May, 1893.

BURNS.

Europhen has been successfully employed by Dr. M. Liebet[1] in mild and severe cases of burns. He uses it as iodoform, *i.e.*, after having washed the affected parts, opened the blisters, etc., he covers the surface with powdered europhen, then sterilised gauze, cotton wool, and keeps the whole in place with a bandage. The cicatrix formed is firm and elastic. In order to prevent the gauze from adhering to the wound, the following preparation will be found useful:—

℞ Europhen	8 parts	Olive Oil	7 parts

Dissolve and add:—

Vaseline	60 parts	Lanolin	30 parts

The secretions diminish; it is also possible to leave the dressing for three or four days, and then to renew it without causing any pain. Burns of the third degree heal after three or four dressings, and the pain ceases after the first dressing.

Bienert [2] recommends strongly the use of **Glycerine** in scalds (water) applied immediately after the accident. Strips of linen or lint are well soaked with the glycerine and then gently laid over the region. So far from irritating or increasing the smarting, the glycerine relieves the pain and prevents the formation of blisters. Bienert states, as a first dressing, it is superior to all other remedies in the relief it yields.

The addition of $\frac{1}{20}$ to $\frac{1}{10}$ per cent. **Thymol**[3] is said to increase the efficacy of **Carron Oil** in the treatment of burns.

A useful application [4] for burns in children is :—

℞ Bismuth. Subnitratis	gr. 30	Lanol.	℥xvijss
Acid. Borici	gr. 67½	Ol. Oliv.	℥v

M.

REFERENCES.—[1] "Annuaire de Thérapeutique," Oct. 23, 1892 ; [2] "Bienert, "Journ. de Médecine," March 5, 1893 ; [3] "Medical Record," July 1, 1893 ; [4] "Nouveaux Reméd.," Feb. 24, 1893.

Synopsis.—(Vol. 1893, pp. 19, 57 and 105.) **Dermatol Ointment** 10%, is especially recommended. **Diaphtherin** 1% solution is useful. In severe cases with high temperature, Horrocks used a bath of weak **Sanitas**, at 90° Fh. and lowered to 70°, with good results. Maynard advocates a 1 in 2000 warm solution **Bichloride of Mercury** in burns of third, fourth, and higher degrees, for washing the wound, and covering it with perforated oil silk steeped in the same, covering this with **Boracic Lint** wrung out of the solution, and this again by **Gutta-percha Tissue**, enveloping the whole in sublimated **Gamgee Tissue**; the dressing is changed when discharge comes through it. Neisser suggests **Tumenol** for burns of first and second degrees.

CALCULUS. (See "Renal Calculus.")

CANCER (Submaxillary). *Alexander Ogston, M.D.*

Cancer of the tongue or lips, if laterally situated, usually spreads to the absorbent gland which lies imbedded in the submaxillary salivary gland, about an inch and a quarter in front of the angle of the jaw, and an inch below the base (see *Fig.* 13, A). In this situation recurrence of cancer is also usual after it has been removed by operation from the lips or tongue. (Central cancer of the lip generally extends to, or recurs in, the sublingual glands, just behind the symphysis of the jaw, but this condition does not belong to the class of cases here dealt with.) The appearance of the disease in the submaxillary region shows itself by a fulness, due to an egg-shaped tumour, increasing in size from that of a small hazel nut to that of a plum. It is at first movable, and its mobility and shape can best be made out by the surgeon putting the thumb of his hand which belongs to the opposite side from the disease down into the floor of the patient's mouth between tongue and jaw, and the fingers of that hand externally over the submaxillary region, when by this double palpation the condition can be accurately made out.

As the disease progresses the gland enlarges in all directions, but chiefly upwards towards the base of the jaw, which it approaches so closely that by the time it has reached the size of a large cherry it is so intimately connected with the jaw that, though it may be movable upon it, it cannot be completely removed by operation unless a piece of the jaw be taken too. The gland speedily becomes adherent, and the disease then invades the jaw, eroding and extending into it, and this may occur even where independent mobility of the two structures seems present to a certain degree. The mischief remains for many months isolated, presenting, if properly dealt with, a condition favourable to a complete removal and permanent cure. Eventually, however, it extends backwards, and appears next in the glands over the carotids, just in front of the sterno-mastoid, and vertically below the angle of the jaw. When it reaches this situation operation is very seldom successful in curing the disease.

TREATMENT.—The removal of such disease in the submaxillary glands by dissection is an operation of great difficulty, and almost always imperfect, so that recurrence is speedily seen. Scraping out is still more certain to end in failure.

The following method may either be used where the removal of the local focus on lip or tongue has already yielded a local cure, or it may be conjoined with the removal of the local disease where it still exists. The operator carries a scalpel incision downwards from the angle of the mouth to the base of the jaw (*Fig.* 14, B) dividing all the soft parts down to the bone. This incision lies anterior to the disease in the gland. From its lower extremity a second incision is carried backwards to the angle of the jaw (*Fig.* 14, C) parallel to and just above its base, dividing again all the soft parts, including the facial artery, down to the bone, above the compressing finger of the assistant. This incision lies above the disease. The thumb or forefinger of the operator's left hand is now placed in the mouth, and lifts the soft parts of the cheeks outwards, while the scalpel, carried close to the jaw, severs them from the bone as far back as its angle, so as to leave the outer surface of its body bare.

In the somewhat rare event of the disease having originated on the inner surface of the cheek, it can at this stage be freely dissected off the inner surface of this cheek flap. The arteries are then tied or secured by forceps.

At this stage the patient usually requires a fresh administration of the anæsthetic, which has been suspended since the first incision was commenced.

Exploration between the thumb inside and the index finger below

the jaw now enables the operator to gauge the extent of the disease and the distance to which its connection with the jaw extends backwards and forwards. Corresponding with this, an incision is now made completely through the jaw well in front of the disease by an amputation saw, which works better and more quickly than any other. The incision is usually vertical (*Fig.* 13, D) and falls about the situation of the first or second bicuspid, which may be extracted before the saw is applied. The incision may sometimes be advantageously directed somewhat obliquely downwards and forwards, so as to save more of the alveolar edge, and the teeth, if present, may be extracted from its

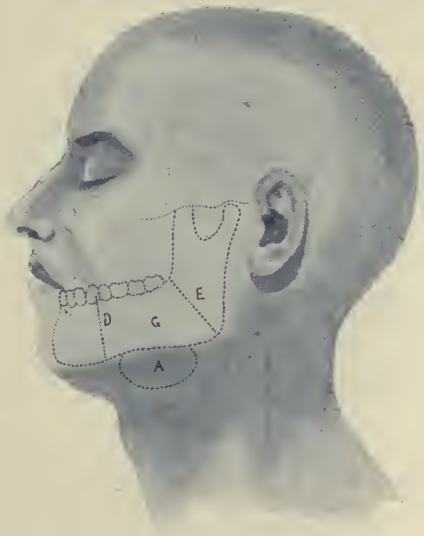


Fig. 13.

line. It is not, however, absolutely necessary to extract the teeth, and frequently it seems better to leave them, as what remains of them heals in and may be of service. A second incision through the jaw is next similarly sawn well behind the disease. Its general form is that shown at *Fig.* 13, E, and severs the body from the ramus by an oblique cut. But its precise situation will vary according to the extent of the disease. If the inferior dental artery bleeds, it is most easily controlled by inserting into the bony canal the end of a wooden match trimmed to a point and dipped into oil of turpentine to disinfect it, the projecting part being cut off flush with the surface of the bone.

Usually a fresh administration of chloroform is required at this period, and during its administration the skin flap may be replaced over a small sponge which is held compressed by it against the jaw so as to control bleeding.

The next stage of the operation consists in dissecting down the loose part of the jaw along with the disease and the parts lying over the digastric triangle, severing them from the side of the tongue, the digastricus, mylohyoid, and hyoglossus muscles. If the side of the tongue be involved, its disease is removed in a mass along with them.

If the disease should have involved the skin, a couple of converging

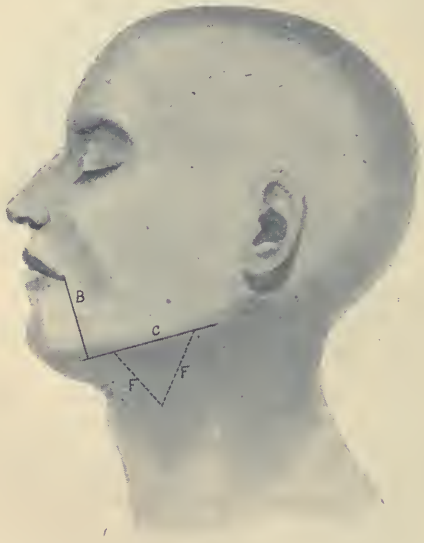


Fig. 14.

incisions (see dotted lines FF in *Fig.* 14) may now be made in it by a scalpel or sharp-pointed scissors, care being taken to keep well free of the limits of the disease ; or a vertical incision may, in every case, be made downwards, if required for space or drainage. To separate the disease from the side of the tongue and the digastric triangle, the loose portion of the jaw is seized by the left hand and doubled downwards, exposing the floor of the mouth. The mucous membrane covering this is divided by sharp-pointed scissors from the one point

of section of the jaw to the other. The left hand, grasping the jaw and embracing the disease so as to recognize its limits by the feel, now draws these outwards and doubles them down towards the neck, while the scissors severs the soft parts between them and the tongue and hyoid bone. While cutting in this manner the facial artery is divided, but so tense are the parts that it does not usually bleed, but appears as a gaping tube, and is secured in a Péan's forceps. It is well, however, to have a stout pile or other forceps ready to seize it in case of its giving rise to troublesome hæmorrhage. The scissors soon cuts free the jaw and diseased parts so that they can be drawn more away from the tongue, and the remaining attachments to the skin, etc., are cut through in the same way until the disease and jaw come away together in the operator's left hand. The Péan's forceps are next taken up and the points secured by them tied with strong antiseptic silk.

If the part removed be now washed and examined it will be seen whether the whole of the disease has been removed, and if this prove not to have been the case the portion left can be easily dissected off, so free is the access obtained in this operation. More of the jaw may also be sawn off if required.

The wound is closed by passing harelip sutures through its vertical portion, and the anterior and posterior ends of its horizontal part may be secured by continuous catgut suture. The middle is best left open for drainage, and gives egress to the end of a strip of iodoform gauze, which is packed between tongue and skin to serve as a capillary drain and prevent the fœtor that otherwise occurs in mouth operations. The gauze is drawn out on the second day or later. Healing is usually rapid, and deformity slight.

In this manner I have operated upon twenty-nine cases, the earliest having been performed on November 13, 1884. Only one case died; the others all recovered, and were dismissed apparently cured. Owing to the difficulty of tracing hospital patients I am unable to say in how many of these the disease subsequently reappeared, but I believe a large proportion have remained permanently cured. I have heard of recurrence in, I think, five only, although it is almost certain that more than this number have not been permanently cured.

The good results seem to be attributable to the free drainage and the accessibility of the wound, which lessens the immediate mortality, and to the completeness with which the disease can be removed, which diminishes the chances of its recurrence.

CANCER (Therapeutics of).

Wright[1] advises internal medication in preparation for and in conjunction with the most thorough extirpation by the knife. For the purpose of destroying outlying foci of disease left by the knife, he tried various drugs internally, and in cases that he had operated upon, as well as in those in which operation was impossible, he began to give **Bromide of Arsenic** in $\frac{1}{40}$ to $\frac{1}{10}$ grain doses after meals, and the **Carbonate of Lime** before meals in 5 to 10-grain doses in the **Tincture of Calumba.** In many cases coming under the head of sarcoma, there was quite a rapid tendency towards cure, and this was generally permanent. Large deposits, as a rule, would not yield, but excision of the enlargement was often followed by a sure cure. As to cases affecting bone, osteo-sarcoma, the treatment was not so favourable, but seemed of some value. He advises practitioners to give the bromide of arsenic to all patients as soon as they come under their care, and continue the remedy for a long time after operation. In a considerable number of cases operated upon for cancer in the past three, four, and five years, to whom the bromide of arsenic was administered for a time, say six or twelve months, complete health has been restored and the scar tissue is now in every way just as normal as it would be if the wound had been in perfectly healthy tissue. In no case did the microscopic examination fail to confirm the diagnosis. In inoperable cases he has seen good results, not the removal of the growth, but relief of pain and a retardation of the growth. In some cases of cancer of the intestines he has seen the bromide of arsenic bring relief and prolongation of life.

Lewis[2] in discussing the use of caustics, agrees with the principle of Walshe, who said: "Escharotic agents should be applied in such a manner as to produce the requisite effect, if possible, by a single application, otherwise the irritation gives, not necessarily but commonly, new activity to the disease." The dangers of mild cauterization are only too frequently seen. Caustics in operable cases, as cancer of the breast, should never be preferred to the knife. Caustics should not be used in cases involving any mucous surface. In cutaneous cancer the author finds a field for the use of caustics. He says: "The disease can be thoroughly destroyed by caustic applications, which act sufficiently upon the diseased tissues without destroying the healthy skin." "The resulting cicatrix, when the deep subcutaneous tissues are not involved, is a smooth, white, and in every way healthy one, and far less conspicuous than those remaining after operation." The only exceptions he finds in cases involving the mucous surfaces of the lips

or eyelids or a large surface. If the disease is a small, warty growth, he advises the use of Jennings' potash and cocaine paste. The formula is as follows :—

℞ Hydrochlor. of Cocaine	2 prts.	Vaseline	6 prts.
Caustic Potash	12 prts.		

Acetic acid must be at hand to limit its action as soon as desired. He has used in over one hundred cases a paste recommended by Marsden, composed of **Arsenious Acid,** 2 parts, and **Mucilage of Acacia,** 1 part, mixed into a paste too thick to run. It is not to be used in cancers more than four square inches in area, and is to be applied to only one square inch at a time. It should be covered with absorbent cotton to absorb superfluous paste, and left on till some swelling of inflammatory character appears around the border of the plaster, when it is removed. From one to three days are required to produce the desired effect ; then warm poultices are applied to remove the slough, and a healthy ulcer follows, which heals rapidly. **Bougard's Paste,** which is less painful, is used in a similar manner, but can be applied to a larger surface, and kept prepared in a covered jar. The skin surface must be removed with caustic potash in both cases. Bougard's formula is as follows :—

℞ Wheat flour	60 grammes	Sal Ammoniac	5 grammes
Starch	60 grammes	Corrosive Sublimate	0.50 centigramme
Arsenic	1 gramme	Solution of Chloride of Zinc at 52° F.	245 grammes
Cinnabar	5 grammes		

Coley[3] has collected a table of thirty-eight cases of malignant disease in which **Erysipelas** cured either by accident or intent. He concludes as follows :—

(1,) The curative effect of erysipelas upon malignant tumours is an established fact.

(2,) The action upon sarcoma is more powerful than upon carcinoma,—in about the ratio of 3 to 1.

(3,) The treatment of inoperable malignant tumours by repeated inoculations of erysipelas is both practicable and not attended with great risk.

(4,) The curative action is systemic, and probably due chiefly to the toxic products of the streptococcus, which products may be isolated and used without producing erysipelas.

(5,) This method should not be employed indiscriminately until further experiments have proved its limitations.

Brown-Séquard[4] considers that the injection of **Testicle Juice** promises to be serviceable in cancer, and quotes a case of uterine cancer

communicated by Labrosse, of Mustapha, Algeria, in which after a dozen injections the patient, who was in the cachectic stage, and was so weak that she could not leave her room, was able to walk about and to go out on foot or driving, which she had been unable to do for a year. Moreover, under the influence of the injections alone, the discharge, which had been very profuse and offensive, ceased altogether. Brown-Séquard promises to publish further facts of the same nature at some future time.

Després[5] has great belief in **Petroleum** as a dressing for scirrhous ulcers in the breast, preferring it to coal tar, charcoal, etc.

Robinson,[6] after a careful study of the method of extension of cutaneous *epitheliomata*, discusses the comparative merits of the knife and of caustics in accomplishing permanent cure. There are some parts of the body subject to cancer where the knife seems to offer the greatest hope of cure. Thus an epithelioma sometimes develops on the flexor surface of the forearm near the wrist, probably indirectly caused by the irritation from a shirt-sleeve button. Unless seen very early, these cases are difficult to handle with caustics, and, as a rule, amputation of the arm above the elbow is probably the best method of treatment.

Cancer of the penis, if advanced, should also be subject to the same treatment. Epithelioma of the scrotum—a part from which it is usually possible to remove a large amount of tissue without injury to the patient—will also give best results from the use of a knife.

On those parts of the skin where the general surface is flat, as on the forehead, prominent part of the cheek, lips, and back or front of the neck, it is not difficult to remove a considerable area of skin without producing deformity; hence the cutting operation may be undertaken. On other parts, however, as when cancer is situated upon the nose, and especially upon the alæ—a frequent situation—it is not possible, as a rule, to remove the necessary amount of tissue without causing more or less mutilation. And if the disease can be removed equally well by other means which do not cause noticeable deformity, the knife should not be used.

Having decided to operate with the knife, and the incision having been carried wide of the disease, the base and margins of the wound should be touched with **Caustic Potash**, thus encouraging an acute inflammation which would destroy any remaining cells. The use of electricity as a caustic has been shown not to be a reliable agent. Scraping or curetting, combined with the use of caustics, should not be employed upon any but very superficial tumours. The three agents

which are quoted by the author as of most service are **Caustic Potash**, **Chloride of Zinc**, and **Arsenious Acid.**

Caustic potash is advised in all cases of small tumour upon the cheek, lips, and some other parts of the body ; but it is unsuited for employment near the eye and upon the alæ of the nose, and when the tumour is near an important blood-vessel. The objection to the caustic potash is that it destroys pathological and normal tissue about equally. Its use is attended with much pain.

Chloride of zinc can be used either in stick form or in solution, or in paste. It does not destroy tissue so rapidly as caustic potash, and it causes much more pain, which lasts for a longer period.

A chloride of zinc paste is one of the best means we possess in the treatment of cutaneous epithelioma, and has also been strongly recommended for mammary cancer. The formula usually employed is that known as Bougard's paste, and is as follows :—

℞ Farinæ Tritici (wheat flour)		Ammon. Mur.	ʒij
Amyli	āā ʒj	Hydrarg. Bichlor. corros.	gr. iv
Acid. Arsenios pulv.	gr. viij	Zinci Chlorid. cryst.	ʒj
Hydrarg. Sulph. Rub.	ʒij	Aquæ fervid.	ʒjss

The first six substances are finely ground, and then mixed in a glass mortar. The chloride of zinc is dissolved in the boiling water, and this solution slowly added to the powder, the contents of the mortar being kept rapidly moving with the pestle until all the solution is added ; then it is allowed to stand for about twenty-four hours, and the paste is ready for use. It is spread thickly upon a piece of muslin.

Robinson holds that there can be no question among those who have treated many cases of cutaneous epithelioma that the use of Bougard's paste is a decided advance over the use of the knife, with the few exceptions, as regards locality, mentioned when discussing the cutting operation. The resulting scar in small tumours is unappreciable, and even when a large area is affected the deformity after cure is not great. The great advantage, however, is that, if well treated, the disease is not liable to return.

With **Arsenious Acid**, in the form of **Marsden's Paste**, the author has had his best results. This paste consists of equal parts of arsenious acid and powdered acacia, rubbed well together, and enough water added to make a paste about the consistence of butter. It must be freshly made each time it is used. It is spread upon muslin or rubber plaster in a layer about one-quarter of an inch thick, and firmly applied to the part. Marsden advises that it should not be applied at one time to a larger area than one square inch, but the author has

applied it to very much larger surfaces, and has never seen any injurious effects. It is not suitable for cancer of the lip or of mucous membranes, on account of the danger of poisoning by absorption.

If the epidermis is unbroken, it should be partly destroyed with caustic potash to get the prompt action of the application. The paste is spread upon rubber plaster and fixed to the part. It should always, when possible, cover a surface extending half an inch beyond the elevated margin of the tumour, and should be left on from fourteen to twenty hours. Within twenty hours there is no danger of the acid destroying the surrounding normal skin. Sixteen to eighteen hours is the proper time to advise the patient to apply it.

A frequent fault in the use of these caustics is the neglect of physicians to treat the case energetically until they are thoroughly satisfied that enough tissue has been destroyed. The desire not to give too much pain is usually the cause of this imperfect treatment. **Pyrogallic Acid,** 1 drachm to 1 ounce of vaseline, applied continuously for two to seven days, acts somewhat like arsenic—in an elective manner—and causes little, if any, pain. It is a suitable application for extensive periepitheliomatous lesions after curetting. **Resorcin** and **Salicylic Acid** sometimes act well, but are unreliable. Pyoktanin and fuchsin have been found wanting, as compared with the means already discussed. With the three caustics, and with the knife in proper cases, a favourable prognosis can usually be given in all cases of cutaneous cancers seen early, and in many cases of recent mammary cancers. Caustics will also at times cure cases declared unsuitable for operation by the knife.

REFERENCES.—[1]Wright, "Annals of Surgery," April, 1893; [2]Lewis, Ibid., 1893; [3]"Amer. Journ. of the Med. Sci.," May, 1893; [4]"Sem. Méd.," Sept. 7, 1892; [5]"Gaz. des. Hôp," June 15, 1893; [6]"International Journal of Surgery," vol. x., No. 7.

CANCER (Uterine).

Porter[1] summarizes his views on the operative treatment of malignant uterine disease as follows :—

(1,) A knowledge of the gross and microscopical appearances of malignant growths of the uterus is essential to their proper diagnosis and operative treatment.

(2,) A thorough knowledge of the symptomatology, especially in the early stages, should be attained by every practitioner of medicine, and the slightest existing carcinoma should demand immediate physical examination and consultation with the surgeon.

(3,) A microscopical examination should be made of any tissue simulating malignancy.

(4,) The entire uterus should be removed in every case of malignant disease where there are evidences of the growth being confined to the uterus, and the sooner the operation is performed the greater are the chances of immediate success and ultimate cure.

(5,) Vaginal hysterectomy is the operation which should be resorted to in all cases where the uterus is small enough to be removed *per vaginam*, and in its performance ligatures should be applied to the larger vessels to the exclusion of clamps.

(6,) In removing large tumours by abdominal hysterectomy the écraseur should be applied and the bulk of the tumour removed before the ligatures are applied.

(7,) Laparo-vaginal hysterectomy should be performed where serious complications in the way of pelvic inflammation and adhesions exist.

(8,) The operations suggested by Zuckerkandl and Kraske, on account of their formidable character, should be performed only in exceptional cases, if at all.

(9,) Where the disease has extended to the parametrium or extensively into the vaginal wall, in no case should hysterectomy be resorted to.

(10,) High amputation should be performed only as a palliative measure.

(11,) In curettement for cancer of the uterus the sharp curette should be employed.

(12,) After all operations for malignant disease, the patient should be kept under observation for as long a period as possible.

Laroyenne[2] states that whenever the finger nail can bring away portions of the cervix or of the uterine mucosa it is perfectly safe to say the condition is one of epithelioma and no ordinary endometritis. This procedure is so simple and reliable that microscopic examination is practically unnecessary.

Areoles[3] recommends **Aristol** for the symptomatic treatment of cancer of the cervix uteri. Although it has no curative action on the cancer itself it gives comfort to the patient. When insufflated on the ulcerating surface it hastens cicatrization and checks the tendency to hæmorrhage. There is no danger of drug intoxication, as it is insoluble and is not absorbed.

As a deodorant injection for cancer of the uterus, the following may be employed[4]:—

℞ Acid. Salicyl.	gr. viij	Tinct. Eucalypt.	ʒvj
Sodii Salicyl.	ʒiij	Aq. destillat.	℥vj

M. Sig.—3 tablespoonfuls to be added to a pint of water, and used every three or four hours as an injection.

REFERENCES.—[1] "New York Med. Journ.," Dec. 17, 1892; [2] "Journ. de Médicine de Paris," July 3, 1892; [3] "La Reforma Medica;" [4] "Med. News."

Synopsis.—(Vol. 1893, pp. 44, 47, 113, 115.) ℞ Cocaine Phenate gr.j, Powdered Condurango gr. xv, M. Make ten powders, and take a powder early in the morning in cases of cancer of the pylorus. Desnos gives Solanin 5 centigramme doses, in pill or gummy solution, half an hour before meals to relieve pain of pyloric cancer, not using more than 15 centigrammes in twenty-four hours. Electrolysis is useless. Inoculations with erysipelas cocci gave favourable results, but not permanently. Injections of methyl-violet and pyoktanin are both pronounced useless. Schultz injects 5 to 10 ccm. daily of **Absolute Alcohol** for cancer of cervix uteri.

CARBUNCLE.

Mr. Rushton Parker introduces a method of treating carbuncles, which he advocates on account of the more satisfactory results obtained than after simple incision, or the use of caustics.

The operation is performed—usually under anæsthesia—by cutting through the skin around the diseased area, keeping well clear of all suspicious tissue, and then removing the whole mass. The diseased tissue is easily distinguished from the healthy.

In some cases a sharp spoon can be usefully applied should the tissues be soft enough to yield. Hæmorrhage, often severe, may be arrested with sponges wrung out of very hot water. The wound is now dressed with **Cyanide Gauze.** It is better to have an extensive but healthy wound, which readily heals, than to leave a focus of infection.

Immediate relief and a painless recovery can be looked for confidently. Often a large amount of skin has to be sacrificed for thorough extirpation, but the gap usually closes up well, and it is a mistake to leave any carbunculous tissue in the fear of making too large a wound, as recovery is only retarded thereby.

The constitutional symptoms usually subside within a very short time of the operation. Extirpation is more particularly recommended in the earlier stages, though Mr. Parker has not seen a case in which it was considered useless to operate, and he has had two successful cases in men of nearly seventy years of age.

It is only when the carbuncles are soft and boggy that it is possible to thoroughly impregnate them with antiseptics; in hard and brawny carbuncles no effectual treatment but entire removal can be adopted, and the application of caustics only performs the same work more slowly and painfully which immediate extirpation accomplishes in a few minutes.

Free incision, as commonly practised, is as severe an operation as

extirpation, and does not materially lessen the patient's dangers from the circulation of ptomaines in his system.

REFERENCE.—Parker, "Prov. Med. Journ.," April 1, 1893.

CATARACT. (See also "Eye.")

Synopsis.—(Vol. 1893, p. 116.) To avoid suppuration after removal, Haab syringes the tear passage with 1 in 1000 **Mercury Perchloride Solution**, and the day before operating he introduces the **Galvano-cautery** wire into the canaliculi for about 5 millimètres, cauterizes, and thus closes them. Snellen introduces a drop of a 5% solution **Cocaine** made with 3% **Boric Acid** into the conjunctival sac, and injects a few drops under the conjunctiva; the œdema thus produced assists formation of a conjunctival flap and induction of primary union. He dresses with absorbent wool dipped in 1 in 5000 **Perchloride of Mercury Solution**, and cleanses the canaliculi and lids with the same before operating.

CATARRH.

Synopsis.—(Vol. 1893, pp. 9, 43.) **Anemonin** gr. ¾ to 1½ has been successfully used for catarrhal affections of nose, eyes, vagina, bladder, and bronchi; also in catarrhal dyspepsia. For acute catarrh of stomach, ℞ Phenate of Cocaine gr. ¾, Acetanilide g.. 15, M.; Make ten powders and take 1 or 2 in the morning. For acute or chronic nasal catarrh, **Phenate of Cocaine** is used, also as a powder, *e.g.*, ℞ Cocaine Phenate gr. iij, Powdered Boric Acid gr. 30: or, ℞ Cocaine Phenate gr. iij, Acetanilide gr. 30: or, ℞ Cocaine Phenate, Menthol āā gr. iij, Powdered Convallaria Flowers, Subnitrate of Bismuth, āā gr. 30: or the following may be used, ℞ Powdered Tormentilla Root, Powdered Coffee, āā ℥jss.

CHANCRE.

Goldenberg[1] relates four cases of primary syphilitic sclerosis of the prepuce in men aged from twenty-one to thirty, in which he performed **Circumcision**, excising as much as possible of the foreskin, together with the ulcer. In one of the cases the operation was done on the second day after the appearance of the lesion, or on the seventh after the last intercourse (the patient's wife was found to be covered with syphilides); in another on the third and sixth days respectively; in a third, on the fifth day after the development of the sclerosis; and in the fourth, on the fourteenth day after the last coitus, or on the fifth of the symptoms. In the latter case the operation failed to prevent the development of secondary manifestations, roseola, etc., appearing on the twenty-seventh day after excision. But the other three patients remained absolutely free from any signs of syphilis up to the present. In one of the cases seventeen months passed since the operation; in another, nine; and in the third, eighteen. The author believes that he has succeeded in cutting short the course of syphilis in all the three men.

McGuire[2] concludes that excision is useless, unless carried out immediately after the infection has taken place.

Du Castel[3] uses the following solution in the treatment of chancre :—

℞ Carbolic acid gr. xv | Alcohol (90 per cent.) ℥ijss

Make a solution, and with a small pledget of cotton or wool touch the surface of the chancre. A light touch is generally sufficient. Cicatrization usually readily ensues.

Cavazzani[4] treats soft chancre with a mixture of 5 parts of **Chloral Hydrate**, 3 of **Camphor**, and 25 of **Glycerin.** The author reports twenty-six cases treated with this application in which a cure was attained in from two to eighteen days. It is said that the secretion diminishes rapidly and soon ceases altogether, that the local inflammation subsides notably, that the epithelium is regenerated speedily, and that suppurating buboes are a rarity.

REFERENCES.—[1]"Meditzinskoië Obozrenïë," No. 12, 1892 ; [2]"New York Med. Journ.," May 6, 1893 ; [3]"L'Union Med.," Sept. 10, 1892 ; [4]"Annales des maladies des organes génito-urinaires," March, 1893.

Synopsis.—(Vol. 1893, p. 26.) **Europhen** in powder, applied locally, has given good results both in hard and soft chancres.

CHLOASMA (Uterine).

Young believes that excessive venery is one of the most common causes of these so-called "liver spots." In all the cases where he was permitted to make a vaginal and uterine examination there was a flabby and enlarged uterus, the cavity of which, including the cervix, measured from three and a half to five inches. The uterine walls also were more or less thickened, and both the os externum and internum somewhat dilated ; in short, the uterus assumes the condition and appearance of subinvolution, as is occasionally seen following confinement. But this condition exists not alone in females who have been pregnant, but also where conception has never taken place.

Uterine chloasma runs an indefinite course ; it may exist even to old age or gradually fade away, as it often does in proportion as the generative organs lose their irritability, beginning with the menopause. Since the patches may exist a long time even after uterine irritation has subsided, we are led to infer that the nervous system furnishes in part that condition on which the deposit of pigment depends, else there would be no return of it after its removal.

Treatment must be twofold : First, to remove the discoloration of the skin, and second, to restore the parts, on which the discoloration depends, to their normal condition. It would almost be useless to attempt to remove the discoloration without first removing its cause ; both may be treated together, however, advantageously. For the former condition the most satisfaction has been derived from the use

of **Bichloride of Mercury** (not gold), 5 grains to the ounce of water carefully painted over the affected skin. In a few days a bran-like desquamation will appear, and with it more or less of the deposit of pigment. After exfoliation of the superficial layers of the epidermis, if pigment still exists, the process may be repeated and continued as long as pigmentation remains.

For the latter condition medicines administered by the mouth are of doubtful utility.

The only treatment that has been of avail consisted of direct application to the uterus, stimulating it to activity and causing in it powerful contractions; for this **Electricity** may be used, especially **Galvanism,** which causes tonic muscular contractions. But what has served the purpose better is the insertion into the uterus of a **Soluble Intra-uterine Pencil,** which by its presence causes powerful contractive pains resembling labour pains, and thus causes a reduction in size of the organ in a mechanical way. A repetition of this process will in due time restore the organ to its natural condition. Preferably a pencil containing **Iodoform** may be used on account of its antiseptic properties. But uterine contraction in such cases is produced by local irritation; hence it matters but little what the composition of the pencil may be, unless other conditions exist in and about the uterus which must be taken into account.

REFERENCE.—"New York Med. Journ.," Dec. 24, 1892.

CHLOROSIS. (See "Anæmia.")

CHOLERA.

The treatment of cholera was dealt with at length in last year's "Medical Annual." Subjoined are a few recent suggestions from various authors.

Niedzwiecki[1] recommends subcutaneous injections of **Quinine**:—

℞ Quinini Bihydrochlor., gr. 30 | Sodii Chloridi gr. 0·6
Aq. dest. ebull. q.s., ad fl. gr. 100

M.D.S. Two (Lewin) syringefuls (=1·2 gr. of the bihydrochlorate) to be injected on the first day; later on, from one to two syringefuls daily.

Lazaraff and Przedborski[2] treat the vomiting of cholera patients with **Cocaine**:—

℞ Cocaini Hydrochlor. gr. iij | Tinc. Menth. Pip. ʒij
Sig.—10 drops every half hour.

Blagovidoff[3] checked vomiting and hiccough by means of **Blisters** applied to the neck along the course of the vagus.

Ffrench-Mullen[4] states that he has given hypodermatic injections of **Strychnine** in some hundreds of cases of cholera, with very satisfactory

results. He uses the method in every case in which collapse has set in or seems to be coming on. He gives 5 minims of liquor strychninæ in an equal quantity of water. As his patients were almost all seen in their own homes, and there were so many to be visited, it was, as a rule, only possible to give two injections in the day (morning and evening) to any one case. He has, however, given five injections in twenty-four hours, and two more during the following twelve hours in the case of a prisoner where the effects could be watched, and has no doubt the man owed his recovery to the remedy. When the urinary secretion has not been re-established within twelve hours or so of the cessation of the other symptoms, Ffrench-Mullen has given hypodermatic injections of **Pilocarpine** with marked success in many cases, urine being passed within less than five minutes after the use of the syringe.

The very latest means for destroying the cholera germs within the human intestine (it is still in the experiment stage) is **Ammonio-tetrasulphate of Potassium,** which possesses the remarkable property of reacting neutrally in an ordinary temperature, but resolving itself at blood heat into an acid sulphate. Taken with the meal, it remains neutral in the stomach, but in the intestine it gives off its acid combination, and, in fact, the more freely the further it proceeds in the intestine. A dose of 90 grains was borne well by a dog. The powder is odourless and tasteless. The theory of acidifying the contents of the intestine is at least free from objection, and awaits only the trifle of practical tests, which ambitious experimenters will soon perform.[5]

REFERENCES.—[1] "Vratch," No. 33, 1892 ; [2] Ibid., No. 34, 1892 ; [3] Ibid., No. 34, 1892 ; [4] "Indian Med. Gaz.," July, 1892 ; [5] Rieder, "Therap. Gaz.," Sept. 13, 1892.

Synopsis—(Vol. 1893, pp. 126, 129, 132.) Sir George Johnson advises an initial dose of **Castor Oil,** or, if it cannot be retained, **Rhubarb** or **Gregory's Powder,** and in cases of marked hepatic derangement or frequent vomiting 2 or 3 grs. **Calomel** are added. When diarrhœa has continued some hours, in the absence of colic and abdominal distension, **Opium Tincture,** 5 to 10 drops, in water, may be given, or it may be replaced by **Brandy with Arrowroot.** In some cases of severe and prolonged diarrhœa it may be necessary to repeat **Oil** and **Laudanum** alternately more than once. **Hot Fomentations** or **Hot Sandbags** are applied to feet, especially during cold stage. Muscular cramps may be relieved by friction with the warm hand. In extreme collapse patient may drink freely of hot water, avoiding over distension of stomach. Hot air or water baths are exhausting. **Ammonia Sesqui-carbonate** in 5 gr. doses, or **Sal-volatile** in teaspoonful doses, may be given every two or three hours as a diffusible stimulant. For bleeding from the bowel, castor oil is contra-indicated, and 20 drops **Oil of Turpentine** in mucilage every two hours should be used, and **Iced Water** taken freely, **Hot Saline Injections** for collapse. Reiche, of Hamburg, found that in moderate cases injections of **Tannic Acid,** 2%, were useful. Salol, bismuth sub-

nitrate, salicylic acid, and pyoktanin were greatly inferior to **Calomel**, 1½ gr. doses, or frequently repeated doses of ⅙ to ⅐ gr., which was the only drug that held its own. **Opium** by mouth, in sedative doses, was wholly condemned, but small subcutaneous doses of **Aqueous Solution** (Dr. Wall, London,) seemed to act favourably. Salol internally and subcutaneously utterly failed. **Subcutaneous, Intra-venous, and Intra-arterial Injections** were most useful; a sterilized 0·6% solution **Common Salt** was employed, and sometimes 0·1 to 1·0 per 1000 **Thymol** (Heinleth), or 1 per 1000 **Hydrogen Peroxide** (Rumpf) was added; 1¾ to 2½ pints were injected at a time, and repeated perhaps two or three times with good —but often temporary—results: these with free use of **Oil of Camphor** subcutaneously, proved the only assured remedies. **Diaphoretic Baths** sometimes acted well with prolonged injections. For vomiting, **Cocaine, Chloroform,** and **Washing out the Stomach** were employed. For cramps, small doses of **Morphia** and **Hot Baths.** Klebs' injection of a pure culture of comma bacillus was tried in a few cases, and apparently gave good results. In bad cases, injections of tannin or subcutaneous saline injections were useless. Sisley states that in the Russian epidemic **Hot Air** and **Hot Water Baths** were the most serviceable, and **Calomel** internally. No results followed the use of antiseptics. High rectal injections of from 1 to 2 litres of a 1 or 2 per cent. **Tannin Solution** were beneficial. For collapse, large subcutaneous injections of **Saline Solution** were used. The dejecta were sterilized by **Sulphuric** and **Carbolic Acids.** Clothes were disinfected by steam; fur and leather articles by chlorine.

CHOLERA INFANTUM.

Gross, who states that an exceptionally large number of cases of infantile cholera come under his notice, claims to have successfully combated this disease: first, by hygienic and dietetic measures; secondly, only by drugs. Children showing marked pyrexia attended by convulsions, but as yet no other symptoms, are subjected to a rectal irrigation of cold water, and friction with alcohol in iced water. If necessary, small doses of **Antipyrin** are frequently administered, and should the patient then have overcome the acute onset, a strict diet is enforced, to commence twenty-four hours after the attack, all milk being excluded, regardless of the child's age. On the other hand, thin gruel, boiled sugar water, or tea are given frequently in small quantities, and salt water irrigations are administered once in twelve hours, while 6 minute **Calomel** powders are given at two-hourly intervals. By these means the attack is cut short, and in twenty-four hours milk from the breast or otherwise can be given with impunity. Should, on the other hand, the malady be developed, the abstinence from milk should be longer, the injections should be made more frequently, and a sufficiency of fresh air in or out of doors must be enjoined. In addition, **Calomel** and **Salol,** or the latter only in the later stages, are frequently administered, and during recovery **Hydrochloric Acid** and **Pepsine** are substituted. Obstinate cases which have lapsed into a chronic condition are relieved by weak

Tannic Acid Injections, and continuous vomiting generally yields to flushing of the stomach once daily with weak **Hydrochloric Acid**, one operation generally sufficing. Should the child be first seen in a collapsed condition, the author recommends immediate warm irrigation of the stomach and rectum with hot mustard baths, and small quantities of stimulants, as even the most serious cases often improve under energetic action.

REFERENCE.—"Therap. Monatsh.," May, 1893.

Synopsis.—(Vol. 1893, p. 152.) Meinert recommends intra-venous injection of 0·6 per cent. **Salt Solution**, or in emergency subcutaneous injections of the same. **Pure Water** should be given freely, and any milk should be largely diluted. Treatment as for sun-stroke should be adopted, giving in early stage a **Cool Douche** or **Bath**, dressing the child lightly and taking it into fresh air. In algide stage a **Hot Bath** is used.

CHOREA. *Alf. H. Carter, M.D., Lond.*

It is difficult to draw up any really satisfactory classification of the varieties of chorea, but the following is suggested: (1,) Simple chorea—most common in young children; varying from merely local fidgetiness to widespread movements; rarely complicated, and very rarely fatal; (2,) Acute chorea—most common during puberty and adolescence; quickly attaining a high degree of intensity; frequently attended with complications, such as delirium, delusions, mania, and grave prostration; (3,) Chronic chorea—generally occurring as the sequel of other varieties; (4,) Chorea occurring in association with rheumatism; (5,) Chorea occurring in association with pregnancy; (6,) Chorea occurring in connection with functional or organic disease of the central nervous system.

TREATMENT.—Chorea is a functional disorder, characterised by disorderly movements chiefly affecting those parts which are concerned in expression by muscular action and gesture, and associated with volitional weakness, undue emotional excitability, and increased motor irritability. In a disease thus representing the collective result of several factors, we are not likely to find a remedy—at any rate, a medicinal remedy—which is able to determine recovery in a direct or specific fashion. It is desirable at the outset to emphasize the importance of beginning full and complete treatment at the earliest possible moment after the recognition of the disease. Chances of prompt recovery are often lost by temporising for a few weeks in the first instance with what are euphemistically called "simple measures." From such delay the morbid habit becomes fixed and strengthened; while disturbing influences, such as undesirable occupation, under-feeding, emotional

excitement from the ridicule of others, are permitted to continue much to the prejudice of the patient.

Rest in bed—for at least a week or ten days in all cases, and still longer in most—is essential, combined with judicious common-sense isolation. There is usually no objection to simple amusements and occupations while in bed, for they help to divert the mind from dwelling too much upon the malady, and aid in the establishment of nervous equilibrium. The requisite qualifications for nursing are watchfulness without meddlesome interference, a calm quiet manner, cheerfulness, patience, tact, and good temper.

Good nourishment is also of cardinal importance ; for all experience teaches that imperfect nutrition favours nervous debility, nervous excitability, and defective control on the part of higher over subordinate nervous centres. The details of feeding, of course, largely depend upon the age of the patient, and the state of the digestive organs, but in all cases it is desirable to begin with a plain milk diet, afterwards supplementing it with farinaceous puddings, eggs, animal broths and soups. Still later a more substantial regimen may be adopted with advantage. In all but the mildest forms of the disease the child should be *fed by the nurse*, until convalescence is sufficiently advanced to enable the patient to feed herself comfortably. **Extract of Malt** is a valuable adjunct to the diet.

Provided it can be performed without unduly exciting the patient, much benefit will be derived from washing the whole body daily with soap and warm water, following this up by general **Massage** for about twenty minutes combined with the inunction of **Sweet Almond Oil.** Search should be made for any sources of nervous disturbance with a view to their removal if possible, such as constipation, worms, menstrual troubles and the like.

As to medicinal remedies, there is no doubt that **Arsenic** is to be preferred to all others for ordinary cases of moderate severity. The liquor arsenicalis is the best preparation, the dose being gradually increased. If well diluted and given after food, it will generally be possible to reach a dose of 10 or 12 minims thrice daily ; but beyond this dose, vomiting is frequent. There is nothing specific in its action, though in certain cases the beneficial effect is striking and unmistakable. It appears especially to suit those patients who are anæmic and badly nourished. In some of the more chronic varieties, great advantage may result from a course of **Cod-liver Oil** and **Malt Extract.** Special symptomatic treatment is often called for.

Constipation.—This is the rule rather than the exception. A dose of castor oil is the most convenient laxative in the first instance ; but

if the difficulty persists it is better to give a daily morning dose of confection of senna and sulphur (equal parts of each), or the old-fashioned brimstone and treacle. Compound liquorice powder, cascara sagrada, or equal parts of glycerine and decoction of aloes are preferable for older patients.

Sleeplessness.—In mild cases this may often be overcome by the simple expedient of a hot **Sponge Bath** at night, followed by a cup of warm milk food, to which a small quantity of brandy may sometimes be added with advantage. Such common-place precautions as quiet surroundings, a darkened room, proper ventilation, a cool temperature, and comfortable arrangement of bed and bedding are sometimes overlooked. Sleep is so necessary a factor in treatment that if the previous simple measures fail, hypnotic drugs must be employed. Of these **Bromide of Potassium** with **Chloral Hydrate** is by far the best for general use. From 10 to 20 grains of each should be given according to the age of the patient, and though I am not prepared to recommend indiscriminate dosage, it must be given boldly in order to secure good results. Chloral does not always answer. For instance, it frequently fails when there is concurrent rheumatism, probably because the patient is kept awake by pain which chloral does not relieve. In such cases it is better to give full doses of **Salicylate of Soda** instead of arsenic, and to add 5 to 10 minims of **Laudanum** to the chloral and bromide draught. Chloral is also apt to fail in cases characterized by wild maniacal excitement, associated with some inherent disorder of the brain, such as insanity or hysteria. Under these circumstances I have used subcutaneous injections of **Hydrobromate of Hyoscine** with advantage, in average doses of gr. $\frac{1}{100}$. It is a powerful drug, and its action should be closely watched. Chloral is inadmissible, moreover, in conditions of profound general prostrations. On the other hand, the irregularity and increased frequency of the pulse, which are so often observed in chorea, are generally of neurotic origin, and are not to be regarded as signs of cardiac weakness contra-indicating the use of chloral; and this is equally true in many cases where such phenomena are accompanied with a systolic murmur at the heart's apex.

As to other hypnotics I have not much to say, as I seldom resort to them. **Chloralamid** succeeded well in one case under my care, and **Paraldehyde** in two others where chloral had been tried unsuccessfully. Sulphonal is of no use by itself, but it is sometimes useful as a means of greatly prolonging the effect of a chloral draught, when given about two hours beforehand, partially dissolved in a little brandy and hot water.

On several occasions I have employed chloral under somewhat different circumstances to that already described—that is to say, not merely as a temporary hypnotic, but in successive doses in order to keep a patient asleep for several days consecutively, with occasional intervals of waking in which food is administered. The object here is to break down the choreic habit by prolonged cerebral rest. It is not always easy to secure this result in actual practice with safe doses; but when it can be easily attained with moderate doses, the benefit conferred is often most remarkable. It is especially applicable in acute recent cases of considerable severity.

Acute profound Prostration.—The suddenness with which it often develops, its quick progress, and its frequent termination in death seem to point to some grave disturbance in the central nervous system as its probable cause, the incidence of which appears to fall chiefly upon the heart and circulation. Be this as it may, it is certain that one of the earliest and most significant signs of its onset is a rapidly increasing frequency of the pulse occurring without obvious explanation. The skin becomes dry, the urine is scanty and very high-coloured, the tongue is dry and brown, and sordes collects on the teeth and lips. This is soon followed by toxæmic delirium, and the patient's life is in imminent peril. When this condition supervenes there is only one thing that will save the patient, and that is **Alcohol,** *given promptly and in full doses*—never less than in 3 oz., often as much as 6 oz., and sometimes even more, in the course of twenty-four hours. There are, I may here observe, three chief indications for the use of alcohol in chorea: (1,) Failure to take food; (2,) Obstinate sleeplessness; and (3,) Acute prostration.

Warm Wet Sheet-packs (repeated sufficiently often to excite as free an action of the skin as possible) and a brisk aperient are excellent adjuvants to other treatment. Further, if food is refused by the mouth, or taken in insufficient quantity, supplementary feeding by rectum is most desirable.

Delirium.—I think we meet with three kinds of delirium in chorea: (1,) As a result of nervous exhaustion from continued sleeplessness. This must be met by good food, moderate supply of alcohol, and hypnotics; (2,) As a result of some inherent disorder of the brain, proceeding from a taint of insanity or from hysteria. These are often troublesome intractable cases. The principles of treatment are the same as for the preceding group, but more or less persistence of mental defect is not uncommon; (3,) As a result of auto-toxæmia occurring in connection with acute prostration. Under these circumstances, hypnotics are either useless or of quite subordinate

importance. We must rely mainly upon a lavish supply of alcohol, the employment of the warm wet-sheet packs, and aperients.

Paralysis.—The local weakness of one or more limbs, which is often observed in chorea, is probably of purely functional origin, closely analogous to hysterical paralysis, and rarely calls for special treatment; but occasionally in a severe or long-continued case, certain groups of muscles are not only paralyzed, but undergo atrophy. Probably something of the nature of peripheral neuritis is responsible for this. Local subcutaneous injections of **Liq. Strychnia** (mj for a dose), **Faradism** and **Massage** are the remedies on which most reliance should be placed. The prognosis, in my experience, is ultimately favourable, though the course is tedious.

Space will not permit my dwelling on the details of the treatment of chronic chorea. I would only emphasize the beneficial effects of **Systematic Daily Massage**, and the steady practice of **Swedish Exercises**, the special feature of which is the analysis of each exercise into its component parts, and the attention which is paid to accuracy of performance. Amusements, such as building with bricks, kindergarten studies, and drawing, also greatly assist in bringing the will into normal relation with the muscles. Concurrently, great attention should be paid to the nutrition and personal hygiene of the patient.

When chorea exists in actual association with acute or subacute rheumatism, treatment by **Salicylate of Soda** takes precedence of all other methods, and should be carried out with the same completeness required for uncomplicated rheumatism.

Chorea occurring in association with pregnancy should be treated on the same principles as under other circumstances. Serious symptoms and a fatal termination are relatively frequent. In cases of extreme urgency, the question of inducing premature labour may have to be considered, and if decided upon, the patient should be kept under the influence of chloroform during the whole proceeding. In quite half of the published cases pregnancy did not reach its natural termination. Of three cases included in the series on which these remarks are based, one was only of moderate severity, and recovered. The second was choreic with her third pregnancy, having had chorea during each of the two previous pregnancies. It was a severe case, but she ultimately became very much better, left the hospital, and was lost sight of. The third case was fatal. Premature labour was begun, but the patient died before it was effected, and immediate abdominal section resulted in the delivery of a dead child. Senile chorea is almost always incurable. I have, however, seen one

recovery in an old woman over seventy years of age, but have no notes of the case, and therefore cannot refer to it in detail. So far as my memory serves me, there was no evidence of organic nervous disease.

Græme M. Hammond, M.D., New York.

Dr. C. L. Dana[1] reports a case of chorea of microbic origin. The patient, a man of twenty-six, had had chorea since the age of fifteen. The attacks were similar to those of the ordinary Sydenham chorea. At first there were intermissions, but the disease finally became chronic. There was no heart disease or rheumatism. The patient died from exhaustion. The *post-mortem* showed a conspicuous, chronic lepto-meningitis, involving the vertex of the brain. Microscopically, this was found to be mainly a proliferation process, without exudation or much cell infiltration. In the superior layer of the cortex there was cellular infiltration, with degenerative changes. In this region and in the deep layer of the pia a diplococcus was found. In addition there were found peculiar hyaline bodies in the three outer layers of the cortex, and less numerically in the basal ganglia. There were evidences of meningeal irritation, vascular disease (arteritis), and nerve-root irritation in the medulla and upper part of the cord.

REFERENCE.—[1] "New York Med. Journ.," Aug. 19, 1893.

Henry Dwight Chapin, M.D., New York.

Dr. C. W. Townsend[1] reaches the following conclusions concerning chorea: (1,) Fright, eye-strain, debility and school-pressure, particularly the latter, which often include some of the former, are patent exciting causes of chorea; (2,) Rheumatism, although absent from the history of at least half of the choreic patients, occurs with greater frequency among the choreic than the non-choreic cases; (3,) There is an intimate relation between chorea and rheumatism; (4,) The heart murmur so frequently found in chorea, sometimes associated with chorea and sometimes not, is in a considerable proportion of the cases due to endocarditis, and leads to organic valvular disease.

Dr. S. S. Adams[2] concludes that chorea is due to rheumatism in but a small percentage of cases; that the heart murmurs are hæmic in the largest number of cases; that the successful treatment would seem to exclude latent or apparent rheumatism; that anæmia and chlorosis are well marked in nearly all cases, and that nerve impoverishment is by far the most potent factor.

Dr. G. W. Sutherland[3] used the salicylate of soda in a number of cases of chorea without benefit. In one case the disease developed while the child was taking this remedy.

Dr. Garriga[4] treated successfully a boy of fourteen years, with chorea, with **Sulphate of Strychnine** in initial doses of $\frac{1}{100}$ grain three times a day, gradually increased to eight times a day.

REFERENCES.—[1] "Archiv. Pæd.," Jan. 1893; [2] Ibid., Jan. 1893; [3] "Lancet," No. 11, 1892; [4] "Gaceta Méd. Catalana," No. 4, 1893.

Synopsis.—(Vol. 1893, pp. 17, 47, 155.) Moncorvo and Lowenthal recommend **Exalgine**, giving 3 grs. three times a day, increasing it in some cases to five times a day, in sweetened warm water. Mackenzie reports successful use of **Emplastrum Lyttæ** applied round the arms between shoulder and elbow in an adult. Nicol used **Cocaine** for reflex cough due to chorea of laryngeal and pharyngeal muscles, and cured the case. Dana uses **Exalgine** 2 grs. three times a day, increased, if required, to 3 grs. five times a day, and at the same time administers **Ferr. et Quin. Cit.** Hare uses **Arsenite of Copper**, $\frac{1}{60}$ to $\frac{1}{25}$ gr. after meals. **Somnal** is a useful sedative.

CHOROIDITIS.

Synopsis—(Vol. 1893, p. 157.) Lagrange injected 1 in 1000 **Corrosive Sublimate Solution** into Tenon's capsule in a case of syphilitic iridochoroiditis, where mercurial inunction and potassium iodide had failed. A single drop was injected in each of four punctures, and in a week this was repeated, inserting 2 drops in each puncture.

CHYLURIA.

Synopsis.—(Vol. 1893, p. 157.) Nugent reports a case associated with filaria sanguinis hominis cured by **Gallic Acid** and **Thymol**, in doses gradually raised to 20 grains of the former and 5 grains of the latter, thrice daily for two weeks.

CLUB FOOT.

John Ridlon, M.D., Chicago.
Robert Jones, F.R.C.S., E.

Etiologically, Dr. Samuel Ketch[1] discusses the following theories: (1,) Pathological changes affecting the child in utero; (2,) Heredity; (3,) Mechanical forces acting on the fœtus; (4,) Arrested or obstructed development; (5,) Non-, or retarded rotation.

Of six hundred and seventeen cases of club-foot observed in a public charity in New York, one hundred and ninety-six were congenital; of these one hundred and twenty-six were males, seventy females; eighty-seven occurred in both feet; fifty-seven in the right foot, forty-nine in the left foot, three not recorded. One hundred and fifty-one presented equino-varus, three equino-valgus, fourteen pure varus, two pure valgus, four pure equinus, sixteen calcaneus, three showed different forms in both feet, and in three the variety was not recorded.

Anatomy of Congenital Club-foot.—Dr. H. L. Burrell[2], presented specimens illustrating the anatomy of club-foot in a child born at seven months, and which lived three or four hours.

As compared with the normal foot, the skin over the posterior inner border was more adherent; the size of the bellies of the muscles was

normal; the sheaths of the tendons were normal; the plantar fascia was not markedly contracted, but became tense when the foot was brought to a corrected position; the astragalus was small, its neck short, the axis curved with the concavity inward, the anterior articulating surface small, the tibial articulating surface divided into two instead of three facets, and that facet articulating with the fibula was covered with connective tissue instead of glistening cartilage. The plane of the superior articulating surface was oblique and faced inwards and upwards, and the depth of the bone was greater on the outer than on the inner side; the whole bone was small.

TREATMENT.—Dr. H. Augustus Wilson[3] believes that to a very large extent the changes in the structure of the bones often described are due in a large measure to the postponement of appropriate treatment. This may be accounted for in either of two ways. First, that observed in uncorrected cases, where the process of ossification progresses, and the partially dislocated tarsal bones become permanently deformed to suit the abnormal position of the foot; and secondly, in the cases of more or less marked severity where recourse has been had to mechanical force to stretch shortened tendons. The bones in these cases, whether deformed or not, yield to the pressure exerted, and thereby become deformed and ossified in their altered shape. In most instances either of these occurrences could and should have been avoided by the early recourse to operative procedures. It is not a question of saving time but of perfect correction. The following are his conclusions :—

(1,) Full perfect correction should be obtained during the first month.

(2,) Where correction is possible without recourse to rigid restraining apparatus, tenotomy should be avoided.

(3,) Tenotomy, syndesmotomy, or cutting of the fascia, should always be resorted to in the first month when perfect correction cannot otherwise be obtained without undue force.

(4,) Tenotomy should never be resorted to in infancy without being followed by developmental and restraining treatment.

(5,) It is a mechanical error to force club-feet into rigid restraining shoes, and if practised during the first three months of infancy will produce bone deformity.

(6,) All apparatus employed in infancy should facilitate free motion in the proper direction and encourage the development of correlation of muscular force.

(7,) All methods which employ undue force in correcting or restraining club-feet should be refrained from until the patient has reached

the age at which the bones are completely ossified. The same period should be awaited before resorting to operations upon the bones.

Dr. E. H. Bradford[4] says that in the treatment of the most persistent cases of club-foot the choice is between such methods as involve the least mutilation and those which give the best results in the shortest time. Three of these are considered : (1,) Forcible correction, preceded by thorough division of ligaments and tendons; (2,) Removal of the astragalus ; (3,) Osteotomy of the neck of the os calcis, and of the astragalus, preceded by careful division of the soft parts of the inner side of the foot.

In most cases the first method gives satisfactory results, but in a small percentage of cases relapse takes place. Excision of the astragalus corrects the deformity and gives a useful foot, but one that can hardly be regarded as perfect. In a normal foot a line drawn through the middle of the sole is a straight one, but in cases of club-foot after the removal of the astragalus the median line in front of the median tarsal articulation forms an angle with the median line posterior to the articulation. This is apparently due to the obliquity of the anterior facet of the os calcis. In cases where such obliquity exists, it is evident that perfect correction cannot be effected either by section of the soft parts on the inner side of the foot, or by excision of the astragalus. In young children where the bones are yet chiefly cartilaginous, persistent maintenance of the corrected position during walking will effect a change in the shape of the bone ; but in older cases, and especially in adults, this can only be effected by operative measures, namely, by the excision of a wedge-shaped piece of bone just posterior to the line of the cartilage. When the astragalus is completely displaced, so as to prevent a complete correction of the deformity, or render restoration to function impossible, it should be excised ; but such cases are exceedingly rare.

Dr. Sigfred Levy[5] enunciates the following rules for the treatment of club-foot : (1,) Bring the osseous parts into their mutual, normal positions ; (2,) Keep them in this position ; and (3,) Make them act in this position.

The deformity is corrected by any of the well known methods ; then the foot is held in the corrected position by a splint which does not restrict flexion at the ankle joint. It is believed that "immobilization is incompatible with transformation."

Dr. B. E. McKenzie[6] urges the importance of the constant continuance of the corrected position by a simple retention splint at night, and the use of a specially made shoe during the daytime, for the prevention of relapse in the treatment of club-foot. In the construction

of the shoe two points demand attention : (1,) The last upon which the shoe is made is not the ordinary straight last, but has its anterior half deflected outward, so that when the shoe is made, the part which covers the anterior half of the foot is everted. At the same time the "upper" of the shoe is supported on the inner side, at the part covering the head of the first metatarsal bone, by a strong counter, and also on the outer side at the part corresponding to the cuboid bone and the base of the fifth metatarsal ; (2,) The foundation of the shoe is so thickened toward the outer part, and projected outward beyond the upper, as to raise the outer border of the foot, and tend to roll it over toward the inner side.

REFERENCES.—[1] "Trans. Amer. Orth. Assoc.," vol. v, 1892 ; [2] "Med. Record," Oct. 8, 1892; "Trans. Amer. Orth. Assoc.," vol. v, 1892 ; [3] "Med. Record," Oct. 8, 1892 ; "Trans. Amer. Orth. Assoc.," vol. v, 1892 ; [4] "Med. Record," Oct. 8, 1892 ; "Trans. Amer. Orth. Assoc.," vol. v, 1892 ; [5] "Med. Record," Nov. 5, 1892 ; [6] "Trans. Amer. Orth. Assoc.," vol. v, 1892.

CONSTIPATION. *Græme M. Hammond, M.D., New York.*

In the atonic conditions of the intestine, Dr. Peterson[1] recommends pouring water over the abdomen while the patient is sitting in a tub containing about six inches of water at a low temperature. He claims that this procedure is a powerful stimulus to peristalsis.

REFERENCE.—[1] "American Lancet."

[*Editorial.*

Oil Enemata in Chronic Constipation.—Dr. Fleiner[1] distinguishes two varieties of chronic constipation, viz., the atonic and the spasmodic. These two forms of chronic constipation are sometimes found combined. The lower half of the large intestine is then in a state of spasmodic contraction, while the upper half is atonic and distended with gases and fæces. The distinction between atonic and spasmodic constipation is of the highest importance as regards treatment. Electricity, massage, and laxatives, which are so efficacious against the former, not only fail in the latter, but are actually harmful, for the spasm of the intestinal wall is increased by the irritation produced. Better results are obtained in some cases from the administration of narcotics, particularly **Belladonna** and **Hyoscyamus**, but these means often prove inefficient. **Olive-oil Injections**, however, constitute a ready and safe way of relieving even the most obstinate cases of spasmodic constipation. The oil exerts a stimulating and soothing action on the intestine. It can also be used in cases of atonic constipation, but as this is relieved by other means of a still simpler kind, the injections are especially indicated

in cases of mixed and spasmodic constipation. For purposes of administration, Professor Fleiner employs a cannula with a bulbous end, similar in appearance to an ordinary vaginal tube, and large enough to allow of the easy discharge of the oil. The cannula is connected by means of a flexible tube with a syringe containing about 15 ounces of pure oil. The patient is made to lie on his back with the pelvis elevated, the cannula is introduced, and the oil injected slowly. The operation usually takes from fifteen to twenty minutes. The cannula need not be passed very high up the rectum, for, by placing the patient in the position above described, intestinal pressure is lowered and the oil is, as it were, aspirated by the intestine. For some time after the injection the oil gives rise to no sensation whatever, but after a while the patient feels a desire to pass wind. There is no pain if pure oil is used. At the end of a few hours (in the morning if the enema was administered at night) a more or less abundant evacuation is produced, which contains only half the quantity of oil injected. The remainder is retained and gradually passed in the course of ten days or a fortnight. The injection is repeated daily until the intestine is cleared of its contents. Two or three enemas are usually sufficient for that purpose. When this has been done, the effect is kept up by means of an injection of about 10 ounces of oil at intervals of a few days. When the intestine is very much distended with fæces, the first injection may not succeed in moving the bowel. In such cases an enema of water is given a few hours after the oil injection. Nothing but pure oil of good quality should be used, that is to say, oil free from all rancid and acid principles which are apt to give rise to colic. Needless to say that the apparatus should be kept scrupulously clean. After each operation the tube and cannula are cleaned by washing first with alcohol and then in water. Apart from chronic constipation, which is so frequently met with in neurotic subjects, in anæmia, and various gynæcological affections, oil enemata are also very useful, according to Professor Fleiner, in the treatment of membranous colitis, in typhlitis, rectal inflammation, and intestinal disturbances connected with diseases of the stomach.

Dr. J. Schneck[2] points out that in many cases of injury to the abdomen without external lesion there follows a rigid contraction of the muscular coat of the bowels, and that the fæces in a very short time then become dry and hard, and may cause excruciating pain, a condition which may end in peritonitis. The bladder may also be affected, and become rapidly distended with urine, adding, of course, to the suffering and danger. He shows by several examples how

quickly the use of the **Catheter** and **Enemata** gave relief and removed the most urgent symptoms. And, again, that in these cases we cannot be too instant in ordering complete rest.

Habitual Constipation of Nervous Origin.—Professor Dubois,[3] of Berne, emphatically recommends an exceedingly simple method, which has been as systematically as successfully practised by him during the last decennium. No medicaments whatever are to be prescribed; but the following instructions should be given to the patient:—

(1,) A regular rising from bed in the morning at a fixed hour (*e.g.*, 7 o'clock), in order to secure that stimulation of peristalsis induced by awakening should occur always precisely at the same time.

(2,) Taking a tumblerful of cold water (or a quassia infusion, if the patient, after all, insists to "have some medicine") immediately after getting up ("a second stimulation of peristalsis").

(3,) Taking breakfast (including Graham's bread, and butter) always at the same fixed hour—*e.g.*, 7.30 a.m. ("a third stimulation of peristalsis").

(4,) Daily making an attempt at defæcation at the same hour—*e.g.*, 8 a.m. ("a fourth stimulation of peristalsis").

(5,) Taking abundant amounts of food (especially of vegetables and fruits) at each meal.

Such anti-constipation code should be given to the patient not only *viva voce*, but on paper as well, and be accompanied by the practitioner's "absolute promise of success."

For constipation in children, Simon[4] advises the following formula:—

℞ Tinct. Cascarilla, Rhubarb, Cinnamon, Calumba, Gentian, āā	2 pts.	Nux Vomica	1 pt.

Sig.—From 10 to 20 drops to be given twice a day.

Dr. John V. Shoemaker[5] warmly advocates the use of the **Continuous Current.** The intrarectal rheophore, attached to the negative pole, is introduced within the bowel, while the sponge-covered rheophore representing the positive pole is adjusted by the patient upon the perinæum. The constant current passes directly through the prostate gland. The patient is able to exactly graduate the intensity of the current by means of more or less pressure upon the rheophore. The strength of the current should be about that of 1 milliampère, rather less than more, and the patient is at first unconscious of its passage. Gradually, however, he perceives the rectal electrode becoming heated

to a point at which it can be comfortably borne. The slow and steady increase in the strength of the current, sometimes from 1 to 10 or 12 milliampères, is of value in producing the result. It was in the course of treating prostatic disease in this manner that he noticed the rapid laxative effect of the galvanic current. The secretion from the mucous membrane is stimulated, as well as peristaltic action. In the course of a few minutes the patient experiences the desire to go to stool.

REFERENCES.—[1]"Medical Week"; [2]"Journal of American Medical Association"; [3]"Correspondenz-Blatt. fuer Schweizer Aerzte," Nos. 10 and 11, 1893; [4]"L'Union Médicale," May 9, 1893; [5]"New York Med. Journ.," May 27, 1893.

CONVULSIONS (Infantile). *Græme M. Hammond, M.D., New York.*

Descroizilles[1] gives the following directions for treating infantile convulsions: The child should be placed in a cool, airy chamber, and its clothing removed at once. The physician should satisfy himself as to the existence of gastric or visceral irritation, and, if it exists, remove it by inducing vomiting, administering an anthelmintic or a laxative, as the case may require. Cold frictions may then be applied, or the child may be given an ordinary tepid bath, with or without mustard. Cold douches may be applied to the head, or a protracted forcible stream may be directed against the fontanelle. In convulsions occurring during a feverish attack the cold bath cannot be recommended. If there is cerebral congestion, a few leeches applied to the mastoid processes, and at the same time warm stimulating applications made to the lower limbs, or compression of the carotids, will often afford prompt relief. Chloroform given by inhalation is only temporary, and, if repeated often, is dangerous. If the convulsions continue he recommends the administration of **Bromide of Sodium**, with from 7 to 15 grains of **Chloral Hydrate** added to it for young children, or from 1 to 1½ drachms for those verging on puberty.

Prestly[2] recommends the hypodermic injection of 5 grains of chloral hydrate for an infant two years of age.

REFERENCES.—[1]"New York Med. Journ.," April 15, 1893; [2]Ibid., Nov. 11, 1893.

CONVULSIONS (Puerperal).

Græme M. Hammond, M.D., New York.

Charpentier[1] states that if, during pregnancy, there is albumin in the urine, however small the amount, an absolute and exclusive **Milk Diet** should be insisted upon from the start. It is, *par excellence*, the preventive treatment of eclampsia. If a convulsion occurs, and the patient is vigorous and very cyanotic, she may be bled to the extent of sixteen ounces, and then **Chloral** and **Milk** given as soon as possible.

If she is not strong, the chloral alone is sufficient. Labour should be allowed to begin spontaneously, and to progress without interference.

REFERENCE.—[1] "New York Med. Journ.," April 29, 1893.

CORYZA.

Dr. John Auld [1] speaks enthusiastically about the excellent results obtained in light, mild, or severe forms of "bad cold," by the following treatment: 10 drops of a reliable fluid extract of **Gelsemium** are dissolved in 3 ounces of water, and of this mixture the patient takes a teaspoonful every ten or fifteen minutes for an hour, then at less frequent intervals, according to the effects produced. The plan is simple, the medicine harmless in the dose recommended, and not at all unpalatable.

According to Dr. Auld this treatment "arrests profuse nasal secretion, quiets headache and neuralgia, subdues cough and pain," and, in fact, quickly relieves the symptoms of a "bad cold."

Dr. Seiss [2] recommends the following treatment when the case is seen at a very early stage :—

(1,) Drop into each nostril from 3 to 5 drops of a 5 per cent. **Cocaine Solution.**

(2,) After giving it some five minutes to produce the full effect, spray out each nostril with some mildly antiseptic solutions, such as :—

℞ Listerine (Lambert)	℥iv	Aquæ Rosæ	℥iv
Acidi Borici	gr. xx		

M. Sig.—Use in atomizer.

(3,) Spray out the nostrils with the following solution, after making sure that nasal respiration has been re-established by the previous steps :—

℞ Menthol.	gr. iij	Albolene (liq.) (or Paroleine)	℥j
Camphor	gr. v		

M. Sig.—Use in atomizer.

(4,) Internally administer at bed-time from $\frac{1}{12}$ to $\frac{1}{2}$ grain of **Morphia,** together with some hot whisky lemonade.

Capitan [3] recommends the following, used as a snuff at the beginning of the attack, a pinch being inhaled in each nostril every hour for half a day only :—

℞ Salol	gr. 15	Tannin	gr. 1½
Salicylic Acid	gr. 3	Boracic Acid (Powder)	gr. 60

If this snuff is used too long it causes eczema about the nostrils, which is probably due to the carbolic acid, resulting from the decomposition of the salol. If it is desirable to use the remedy for a longer period, a

little **Talc** or powdered **Boracic Acid** must be added, or the proportion of salol reduced to 4—7½ grains.

Another useful snuff formula[4] is :—

℞ Morphinæ Hydrochloratis gr. ij | Bismuthi Subnitratis ʒvj
Pulveris Acaciæ ʒij |

Misce et fiat pulvis.

Not more than a quarter of this quantity to be used in the twenty-four hours.

REFERENCES.—[1] "New York Med. Record"; [2] "Hare's System of Therapeutics"; [3] "Lyon Médicale;" [4] "Practitioner," April, 1893.

COUGH (Nervous).

Synopsis.—(Vol. 1893, p. 47.) Somnal is a useful sedative.

CRETINISM. *Henry Dwight Chapin, M.D. New York.*

Dr. Carmichael[1] treated a case of cretinism by hypodermic injections of **Thyroid Extract** and by feeding with parts of the gland. He injected 10 minims of the extract twice a week for six weeks. As this produced irritation, he reduced the injection to 10 minims weekly, and after that to every two weeks. He then began feeding with the raw gland, giving half a lobe at first, and then after two weeks one lobe per week. The result of the treatment was continuous improvement.

REFERENCE.—[1] "Lancet," March 18, 1893.

CROUP (Spasmodic).

Gillette[1] prescribes :—

℞ Dover's Powder gr. iv | Simple Syrup ʒj
Cherry Laurel-water ʒj |

A coffeespoonful of this may be given every hour to children suffering from spasmodic croup. If this dose does not produce quiet, the patient may receive a rectal injection composed of **Chloral Hydrate,** 8 grains ; **Infusion of Valerian,** 2 ounces ; which may be repeated a second time, if necessary.

If the croup persists and is obstinate, Gillette states that quick relief may be obtained by the use of the following solution, given by means of an atomizer in the mouth :—

℞ Hydrochlorate of Cocaine, gr. jss | Bitter-almond Water ʒjss
Bromide of Potassium gr. xv | Distilled Water ʒvj

The bedroom in which the child is ill should have its atmosphere moistened by the setting free of steam, and it is well to apply to the lower extremities and to the chest mild mustard-plasters for counter-irritation. If necessary, the child may be given an emetic to rid it of any mucus which may be occluding the air-passages.

Watkins[2] claims to have obtained good results in laryngismus stridulus by the internal administration of **Tincture of Iodine.** His method is to order $\frac{1}{5}$ of a drop in water every fifteen minutes at first, and then every one to three hours. He continues treatment for about four days after the attack.

REFERENCES.—[1] "L'Union Médicale," July 12, 1892 ; [2] "Clinical Journal," Jan. 11, 1893.

CYSTITIS.

Synopsis.—(Vol. 1893, p. 87.) Guyon advises instillations of **Perchloride of Mercury Solution,** 1 in 5000, especially in tubercular cases. Half a drachm is used at first and increased to a drachm. The bladder is emptied previously. Fenwick advises 1 in 10,000 or 20,000 to be the strength of the solution at first, gradually increasing it. Tyson gives **Santal Oil** before meals, and uses **Sodium Salicylate** (a drachm to the pint) as an injection ; if pus does not rapidly diminish he substitutes an **Alum Solution** for injection. Mansel states that **Salol** may produce great collapse if kidneys are extensively damaged; he uses ℞ Salol ʒij, Pulv. Acac. Gummi q.s., Aq. Cinnamomi ʒxij, Ft. Mist. Sig.—ʒss 4tis horis vel sextis p.r.n. **Salol** may also be used in 5-grain pills. Belfield successfully employed **Iodine Trichloride** in $\frac{1}{8}$ to $\frac{1}{4}$ % solution in distilled water, by the hypodermic method.

DIABETES.

In discussing the relationship of diabetes and gout to liver disease, Dr. Geo. Harley considers that he is justified in making the following nosological divisions : (1,) Hepatic diabetes, including the gouty variety ; (2,) Cerebral diabetes, including all cases of saccharine urine arising from nerve derangements ; (3,) Pancreatic diabetes, the most deadly form ; (4,) Hereditary diabetes, a not uncommon form, in which brothers and sisters may suffer without either of their parents having been affected, though more distant relations may have had diabetes ; (5,) Food diabetes, including all forms of saccharine urine arising from ingestion of unwholesome substances. He also divides all cases clinically as well as scientifically into two great classes, of which the first is due to excessive sugar formation, and the second to diminished, saccharine consumption—malassimilation.

Patients belonging to the first class are in general well nourished, and are so amenable to treatment that they may be kept alive and in comparative comfort for a quarter of a century and more ; those belonging to the diminished consumption group are in general so little influenced by either medicines or diet that the vast majority of them succumb to the exhausting effects of the disease within a few weeks after its commencement. He would give hepatic diabetes as an example of that arising from excessive sugar formation, and pancreatic

diabetes as that resulting from diminished consumption—malassimilation.

The most common cause of hepatic diabetes in temperate climates is the habitual use of stimulants with rich foods, while in the tropics it is thought to be frequently the result of liver congestion after chill, combined with injurious dieting. After quoting cases in support of his views, Dr. Harley remarks on the value of symptoms for prognostic purposes.

He regards as adverse signs progressive emaciation, the appearance of acetone in the urine, as detected by the perchloride of iron test, an ethereal apple-like odour of the breath, and lastly, aberration of intellect, drowsiness and embarrassed breathing, the last being rapidly followed by coma. A diminution in the elimination of sugar is not necessarily a sign of improvement, unless other symptoms undergo a corresponding modification. It has been noted that after grave surgical operations or accidents proceeding to a fatal termination, the excretion of sugar has been completely arrested before death.

As far as Dr. Harley is aware, no one has as yet ventured to explain this curious phenomenon, but his idea of the matter is : (1,) The sugar only disappears from the urine in the case of diabetes arising from excessive saccharine formation ; (2,) Its disappearance is due to the depressing effects the superadded acute disease or injury has upon the sugar-exciting formative nerve power, precisely in the same way as nerve shock, either the result of mental emotion or physical injury, arrests the secretion of bile.

Treatment.—The line of treatment to be pursued is in every case to begin by putting the organ supposed to be at fault to rights, be it liver, nervous system, or pancreas, at the same time—as the liver is the sugar manufactory of the animal body—always taking care that the biliary functions are in good working order. In the next place endeavour to raise the general health of the patient to its highest possible standard by giving him plenty of fresh air and healthy muscular exercise within the margin of fatigue, and keeping away from him all mental and bodily-lowering influences.

In cases of diabetes the result of excessive sugar formation, as all hepatic cases are, a restricted diet is essential ; but to wholly stop the saccharine supply is not what is wanted. For were we to do so we would arrest every function of animal life, for a certain amount of sugar is absolutely essential to their proper performance. A healthy man of about thirteen stone weight uses up daily no less than 2 lbs. of sugar.

The following table indicates the general principles of dietary for cases of diabetes from excessive sugar formation :—

May Eat.

Meats.—All kinds of fresh meat, fish, soups.

Cooked Vegetables.—Cabbage—white and red, cauliflower, Brussel sprouts, spinach, turnip-tops, greens, sorrel, Jerusalem and leaved artichokes, broccoli, tomatoes, onions, and mushrooms.

Uncooked Vegetables.—Lettuce, chicory, endive, dandelion, celery, shalots, watercress, sorrel, and tomatoes.

Puddings.—Egg custard, calves' foot, gelatine, isinglass, Irish and Iceland moss jellies, and blanc-manges.

Breads.—Gluten and bran breads.

Fruits.—Oranges, limes, lemons, shaddocks, olives, pineapples, bilberries, raspberries, blackberries, red and white currants.

Should Avoid Eating.

All wheaten, barley, oatmeal, or other forms of ordinary bread ; pastry, pie-crust, dumplings, pancakes, porridge, as well as all kinds of farinaceous puddings—sago, rice, semolina, corn flour, arrowroot, revalenta, malts, and maltine in any shape ; likewise *paté-de-foie gras*, and, indeed, liver in any form. Asparagus, potatoes, peas, beans, lentils, beetroot, parsnips, carrots and turnips, rhubarb—stewed or in tarts—chestnuts, raisins, prunes, and dried figs.

May be Partaken of in Great Moderation.

Oysters, mussels, clams, vegetable marrow, seakale, radishes, cucumber, green French beans, melons, apples, pears, peaches, apricots, grapes, gooseberries, strawberries, and cherries ; likewise almonds, filberts, walnuts, and hazel nuts.

When milk is given, as given it may be freely, it is much better to give it fresh than skimmed. For in giving the latter not only is all the saccharine matter given, which normal milk invariably contains, but at the same time the patient is deprived of its non-sugar forming, highly nutritious, oleaginous ingredients constituting the cream.

The above form of dietary for diabetes due to excessive sugar formation requires considerable alteration in order to make it suitable for that due to diminished saccharine consumption—malassimilation. It is necessary to supply to the body such easily assimilable foods as will retard emaciation, while they at the same time keep up the vital powers of the patient. Hence in these cases, not only fresh milk, but cream, butter, and even cod-liver oil should be given freely, and when

greasy stools are met with, as in the pancreatic variety of the disease, from there being an absence of pancreatic juice, there should be given along with the oil either **Liquor Potassæ** or **Carbonate of Soda** dissolved in **Glycerine** in order to emulsify the fats, and thereby render them more absorbable by the intestines. Not only so, but when the loss of flesh and strength is great, as it is not the presence of the sugar in the circulation, but the want of its assimilation, which causes them (as by increasing the supply of the wanted nutritive material, the chances of its assimilation is augmented), there should be no hesitation in giving freely the most readily assimilable saccharine substances, namely, honey and pure cane sugar. Kulz even recommends lævulose, the exact analogue of diabetic sugar.

In cases of diabetes from excessive sugar formation, whenever patients begin to lose flesh and strength, and show signs of mental weakness, at once relax the severity of the restricted diet and allow toasted brown bread, along with fats and plenty of green vegetables and fruit.

Two different kinds of mineral water are useful to diabetics, the saline purgative, and the alkaline non-purgative waters. The beneficial action of purgative mineral waters is best seen in cases of diabetes from excessive sugar formation, and it is due to precisely the same cause as a restricted diet—namely, to reducing the saccharine supply. If the ingested food be swept out of the intestines, before its nutritive ingredients have had time to be taken up by the intestinal absorbents, it might just as well never have been swallowed, in so far as furnishing materials to the liver to manufacture sugar with is concerned. Alkaline non-purgative mineral waters act by virtue of their alkalinity, in precisely the same way as liquor potassæ and carbonate of soda, namely, by emulsifying the fatty matters of the food and thereby increasing their absorbability by the digestive canal, and thus conducing to retard emaciation and death. Hence their advantages are seen best in the diabetes from diminished consumption of pancreatic cases.

Only in very exceptional cases should a diabetic patient make use of an alcoholic drink, namely, when weakness and loss of appetite show themselves in cases of diabetes, from excessive sugar formation, and when increasing debility is a marked symptom in those cases due to diminished saccharine assimilation. Then and then only do alcoholic stimulants do good instead of harm.

As all diabetics suffer more or less from thirst, they should make use of bland liquids—tea, coffee, lemon squash, koumiss, soda, puralis, and Salutaris waters, as well as milk, with or without aërated water added, beef tea, bouillon fleet, bovril, and Liebig's extract. In cases where the thirst is annoying to the patient, he should acidulate iced

aërated water with a few drops of lemon juice or of dilute phosphoric acid, and slowly sip it. **Phosphoric Acid** seems to quench the craving for fluids better than anything else.

First, as regards the drugs that act beneficially in diabetes, the result of excessive sugar formation. These are all of the narcotic and anodyne class—**Opium, Morphine, Codeine, Hyoscyamus, Cocaine, Bromide of Ammonium,** and such like. Codeine may give unsatisfactory results where morphine is found potently useful, and, where both have failed, crude opium may produce the desired effect. Whenever 1½ grain of codeine, or a couple of grains or so of opium for a dose, produces little or no effect, either in reducing the amount of the urine or its specific gravity, the failure is most likely due to not having selected the form of narcotic suited to the case.

The beneficial effects of **Croton Chloral,** given in combination with a vegetable narcotic, are often surprising. In the case of a protean disease such as diabetes, it is impossible to give a general formula, but the following will serve as an example, and in one case proved very serviceable :—

℞ Croton Chloral	gr. ½	Ext. Gentianæ	gr. jss
Opii	gr. j	M.	
Ext. Aloes Barb.	gr. ⅙		

Sig.—1 pill to be taken three times a day.

In cases of diabetes the result of nerve depression, as well as those arising from pancreatic disease, **Strychnine** may be of great service when given in the form of nux vomica extract in ¼ gr. doses three times a day in a croton chloral pill combination. Indeed, everything tending in any way to improve the general health in such cases is of benefit to the patient. Hence not only **Strychnine** and **Quinine,** but likewise mineral acids—notably **Phosphoric** and **Nitro-hydrochloric** —are of service. **Antipyrin** once or twice has proved very useful, as well as occasionally the **Peroxide of Hydrogen.**

In a critical review of diabetic dietaries Letienne[1] speaks of the difficulty of providing suitable substitutes for bread. Of these **Aleurone Bread,** recommended by Ebstein,[2] would appear to be one of the best. **Soya Bread** is also well spoken of. Gluten bread cannot be made palatable without the addition of fecula. It is preferable steadily to reduce the amount of ordinary bread than at once to withdraw it altogether. Farinaceous vegetables are generally excluded, but there is some difference of opinion about potatoes. Perhaps it is better to allow a small quantity of the latter than to forbid them altogether. Green vegetables are accorded a secondary place in the dietetic treatment. Meat diet plays the most important part. An

exclusive meat diet has been used, but it has great inconveniences, and is often badly borne. Grave forms of diabetes may be uninfluenced by it. In France it finds little favour. Fish forms a good change, and eggs may be allowed. Fats should supply the deficiency of the carbon element due to the withdrawal of the carbo-hydrates. The diminution in the amount of sugar brought about by Donkin's milk treatment is usually temporary, and some look with misgiving upon this treatment. Condiments are as a rule forbidden. Glycerine has been used as a substitute for sugar; it may assist in regulating the bowels. Saccharin has fallen into disrepute. The simplest method is steadily to diminish the sugar supplied. Pure water is the best drink. Some white wines may be allowed, but no strong alcohol. Mineral waters surcharged with carbon dioxide are useful. The author naturally draws much attention to the question of the individuality of each patient. The treatment must vary according to the type of the disease, whether severe or mild. The effects of treatment must be ascertained by the amount of sugar excreted. Overwork, both mental and bodily, must be studiously avoided, but moderate exercise is good. Travelling and residence in certain health resorts may be useful. Diabetics are susceptible to cold. The functions of the skin should be cared for, but sweating, such as is produced by the vapour bath, may lead to grave symptoms. The case, however, is somewhat different in diabetes without wasting (*diabètès gras*), in which warm hydrotherapeutical treatment may be useful.

Drs. Mackenzie and Neville Wood[3] each report two cases of diabetes mellitus treated with pancreatic preparations, the former using **Liq. Pancreaticus,** and the latter **Zymin.** All the cases seemed to lose to some extent their weakness and lassitude, the thirst lessened, and a smaller quantity of urine was passed, but its specific gravity was not diminished, and the relative quantity of sugar remained unchanged. Dr. Hale White,[4] judging from two cases, draws the conclusion that it is very doubtful if feeding on fresh pancreas, or injecting liquor pancreaticus subcutaneously, is of benefit in diabetes, although there may be a slight gain in weight and feeling of strength; the quantity of sugar passed may be decreased, but the quantity of urine, its specific gravity, and also the amount of urea, is not influenced. In one case an attack of erythema with fever and sore throat accompanied the use of the raw pancreas.

Leoni[5] concludes that **Syzygium Jambolanum** is not a specific for the diabetic process, although it has some influence in checking it. In doses of 10 to 100 grammes daily his cases generally showed decided

improvement, but no cures are reported. The bulk of evidence indicates the necessity of employing extracts of the whole fruit, as the seeds alone rarely give satisfactory results.

Piatkowsky[6] tried **Benzosol** or **Benzoyl-guaiacol** in eight cases of diabetes with satisfactory results. All severe cases were transformed into mild ones, while in some patients the sugar disappeared altogether. The effects were better if the diet was strictly an animal one (butcher's meat) than where a mixed diet was allowed. The remedy is tasteless and odourless, and when administered in a daily dose, under 4 grammes, no unpleasant effects followed; but if from 4 to 5 grammes were given, diarrhœa occasionally followed.

Dujardin-Beaumetz[7] recommends the following treatment: Immediately before breakfast and dinner he orders a glass of **Vichy Water** (Hauterive), in which is dissolved one of the following powders:—

℞ Carbonate of Lithium ʒijss

Make into 30 powders, and add 2 drops of Fowler's solution to each powder.

If the polyuria is excessive, after each meal he gives with some **Black Coffee** 15 grains of **Antipyrin.** In the morning the entire body is sponged with warm water to which has been added a little cologne-water, active friction being simultaneously employed. The mouth is to be rinsed out after each meal with the following mixture:—

℞ Boracic Acid	ʒvj	Thymol	gr. iij
Carbolic Acid	gr. xv	Water	Oij

Or,

℞ Tincture of Anise	ʒijss	Alcohol (90 per cent.)	Oj
Essence of Peppermint	gtt. x	Tincture of Cochineal, to colour it	q.s.

Mix this with equal parts of water.

A rigid diet is also to be observed.

Nicolaier[8] gives the result of the treatment of seven cases of diabetes mellitus by **Salol,** the dose given being usually 30 grains three times a day. The *rationale* of the favourable action cannot very well be explained; the administration of the drug will diminish the quantity of sugar in certain cases without any dietetic restrictions. The use of salol, like all other remedies in this connection, is of minor importance compared to the proper regulation of diet, and is in general indicated more especially when such regulation cannot be carried out. Albuminuria from nephritis is a contra-indication to its use.

Prof. Bufalini,[9] of Siena, has found that the tolerance of a strictly albuminous diet becomes much greater if **Thymol** be coincidently

administered. The good effect of this drug in such cases is solely through its well-known action as an intestinal antiseptic.

Külz[10] has found that before and during diabetic coma numerous casts appear in the urine. Their occurrence is of great importance as a noteworthy prognostic sign of approaching coma. The casts vanish from the urine with the disappearance of the symptoms of coma.

For excessive thirst in diabetes the following may be used[11]:—

℞ Pilocarpinæ Nitratis gr. iij | Aquæ ad ℥ss
Spiritûs Tenuioris ℥j |

Sig.—4 or 5 drops on the tongue twice or thrice daily.

REFERENCES.—[1] "Archiv. Gén. de Med.," Feb., 1892; [2] "Brit. Med. Journ." Epitome, June 11, 1892; [3] Mackenzie and Wood, "Brit. Med. Jour.," Jan. 14, 1893; [4] "Brit. Med. Jour.," Nov. 4, 1893; [5] "Gazz. d. Osp.," Jan. 31, 1893; [6] "Przeglad Lekarski," Oct. 29, & Nov. 5 & 19, 1892; "Zeitschrift des Allgemeinen Oesterreichischen Apothekervereins," 1893; [7] "Journal de Médecine de Paris," Nov. 6, 1892; [8] "Therap. Monatshefte," No. 3, 1893; [9] "Therap. Gaz.," Feb. 15, 1893; [10] "Medical Chronicle," April, 1893; [11] "Practitioner," April, 1893.

Synopsis.—(Vol. 1893, p. 161.) Williamson suggests **Implantation of Portions of Living Pancreas** under skin where pancreatic diabetes can be diagnosed. Saundby suggests **Injection of Fresh Pancreas Extract.** The effects of jambul are still *sub judice*. In diabetic coma Reynolds administers first an aperient, and orders the patient large quantities of fluid—a gallon in a night—together with 60 grs. **Citrate of Potash** to 1 ounce of water every hour; the fluid may be milk, tea, lemonade, water, or barley water. Stadelmann recommends intra-venous injection of 150 c.c. 0·6 per cent. **Salt Solution,** adding 7·2 grammes **Sodium Carbonate,** and 4·6 grammes **Sodium Bicarbonate.** Ralfe considers that **Opium,** or one of its derivatives, may be safely pushed as long as the quantity of sugar falls. Lauder Brunton recommends **Sodium Salicylate** in cases where urine contains much uric acid or oxalates after sugar disappears.

DIARRHŒA.

Dr. Arslau[1] treats all kinds of diarrhœa except dysentery and ulcerative entero-colitis by a **Faradic Current** of sufficient intensity to cause visible contractions of the abdominal muscles. Both rheophores are applied to the abdomen, and the diarrhœa usually ceases after three or four applications.

Lojkin[2] employs a 2 per cent. solution of **Lactic Acid** for the diarrhœa attending acute dyspepsia, giving ½ a tumblerful twice a day.

Dantec and Bonamy[3] are in the habit of using **Chloroform-water** for tropical diarrhœa:—

℞ Aquæ Chloroformii | Aquæ dest., of each, 100 grammes

To be taken at intervals during the day.

When the diarrhœa is associated with dysentery, chloroform-water is also used, but at the same time the colon is irrigated with antiseptic solutions.

Bonamy has used injections of **Corrosive Sublimate** in dysentery. No poisonous symptoms have as yet been noted. The preparation of the clyster is as follows :—

℞ Corrosive Sublimate grs. j | Water ℥xvj
For two injections, morning and evening.

Mencke[4] employs the following prescription :—

℞ Powdered Resorcin, gr. xv | Distilled Water ℥iij
Paregoric ♏xv | Syrup ℥ij
A dessertspoonful of this may be taken every two hours.

In the case of children it is well to diminish the quantity of resorcin and of the paregoric, or a coffeespoonful of this mixture may be given every two hours.

Matinal (*Hill*) *Diarrhœa.*—From the detailed accounts given by Dr. Crombie of hill diarrhœa, Dr. Cantlie[5] says he is convinced that he has a similar disease to deal with in Hong Kong. The symptoms are—frequent morning stools, the first causing the patient to rush to stool immediately on waking or getting out of bed, which is characteristic. The second call is one or two hours later; the third call, say, after breakfast; the fourth about 10 or 11 a.m. For the rest of the day the patient is quite well, gets about, and takes his food with relish and his exercise with energy. Next day the same experience is repeated. The disease causes so little physical deterioration at first that months go by before advice is sought. The stools are white, of the consistence of mud, bulky, sometimes fermenting and frothy. Dyspeptic symptoms advance—chiefly cæcal and colicky—with flatulent discomfort. Clinically, the evidence is the absence of bile from the stools. Dr. Cantlie asks whether we are correct in assuming that bile is absent, or whether it is only the colouring matter that is withheld. He objects to the term "hill diarrhœa," because at Hong Kong the disease is met with at only a few hundred feet above the sea level. He suggests that the cause may be found in the absence of sufficient lime salts, and the deficiency of alkalies and alkaline earths, in the drinking water from the hill-streams. He treats the disease with **Oxide of Zinc, Bicarbonate of Sodium,** and **Rhubarb,** the zinc being given as an intestinal tonic and astringent, the soda as a base for the bile acids, and the rhubarb as a stomachic. For diet he gives milk exclusively in severe cases. He suggests that the reason for the disease not being known at great heights in India is to be found in the fact that wells, not streams, are the usual sources of potable water at great altitudes.

The following formulæ have been suggested :—

For *Chronic Diarrhœa.*[6]

℞ Salicin ʒij | Simple Syrup q.s. ut ft. Pil. xx

Sig.—1 pilule to be taken every four hours.

For *Tubercular Diarrhœa* (Maragliano).[7]

℞ Phosphate of Lime ʒijss | Tannin gr. xv—xxx

Sig.—To be divided in 4—6 cachets, and to be taken during the day,

REFERENCES.—[1] "Le Progrès Médical," June 28, 1893 ; [2] "Lemsky Vratch," Nos. 49 and 50, 1892 ; [3] "Internationale Klinische Rundschau," 1893 ; [4] "Therap. Gaz.," May 15, 1893 ; "L'Union Médicale," Nov., 1892 ; [5] "Pract.," xxxix., p. 334 ; "Indian Med. Gaz.," vol. xxviii., p. 12, 1893 ; [6] "Deut. med. Woch.," 1893, No. 25 ; [7] Ibid.

Synopsis.—(Vol. 1893, pp. 18, 164.) **Dermatol**, 2 to 6 grammes daily in water or gummy emulsion, and with or without **Opium**, has proved useful in diarrhœa. Shchegoleff used **Lactic Acid**, the average dose of 115 grs. daily being given in aqueous solution sweetened with syrup in cases of diarrhœa due to phthisis, typhoid fever, erysipelas, intestinal catarrh, etc., with good results ; it is also recommended in diarrhœa of children, accompanied by green stools. Harold recommends **Tincture of Digitalis**, 4 minims, together with **Liq. Strychninæ**, 2 minims, for chronic diarrhœa.

DIARRHŒA (Infantile).

Dr. Milton Abbott[1] considers that in this disorder the indications for acids are doubtful. **Lactic Acid**, as proposed by Hayem, is advocated in : (1,) Acute infectious diarrhœa where the stools are numerous, watery, and often foul but yellow in colour ; and (2,) In green bacillary diarrhœa, for which it is recommended as a specific. Numerous observers have found the reaction of the alimentary canal in healthy infants acid throughout ; and Pfeiffer has shown that green stools are associated with alkalinity. Hence, the use of acids would seem to have a rational basis. The dilute mineral acids are commended by many, the dose being 1 to 5 drops, administered twenty minutes after feeding. The vegetable astringents have during the last few years been almost discarded. The same is true also of mineral astringents, with a single exception. That exception is **Bismuth**, the subnitrate being the preparation universally esteemed. It is prescribed in much larger doses than formerly, 20 grains every two hours sometimes being given to an infant. Opiates are less used than formerly. They undoubtedly check peristalsis. As peristalsis is increased in diarrhœa, this action is desirable after the bowels have been emptied of their objectionable contents, but highly dangerous before. The other indications for **Opium** are relief of restlessness, pain and tenesmus, and the control of frequent watery passages. Ashby and Wright recommend it in the latter stages, if the passages

continue small and numerous. Holt and Crandall always prescribed the opiate separately, so that it may be conveniently increased, diminished, or withheld at will ; for increasing fever or toxic symptoms call for its discontinuance. It should not be given when the passages are infrequent and of bad odour. A decrease in the number of stools while they become more offensive contra-indicates its use and demands evacuants.

Stein[2] agrees with Cohnheim that infantile diarrhœa is not always accompanied by inflammation, but may be purely functional, and characterized by increased peristalsis, diminished absorption, and eventual increase of secretion, but neither pus nor blood appears in the stools. It is diagnosed by excluding any catarrhal or inflammatory origin. The most successful treatment is by **Extract of Belladonna** three or four times a day, supplemented by **Creasote** or some other antiseptic. **Galvanism** has proved useful, and the **Faradic Current** of 3—10 milliampères gave much satisfaction. Hydrotherapeutic measures and local warmth are valuable.

Dr. M. Enrico Mense[3] has treated a great number of cases of infantile diarrhœa by administering **Hydrochloric Acid** and **Salol.** Under the influence of salol, the stools lost their fœtid odour ; their frequency diminished, and they gradually assumed their normal aspect. The colicky pains were mitigated, and the children returned to their normal state of health. The dose of salol was from gr. v. to gr. x. daily in children under a year old, and from gr. xv. to gr. xxx. in older children.

REFERENCES.—[1]"Boston Med. and Surg. Jour.," Nov. 10, 1892 ; [2]"Centrlbl. f. Therap.," April, 1893 ; [3]"Gazetta degli Ospitali."

DIARRHŒA AND INDIGESTION OF INFANTS.

Henry Dwight Chapin, M.D., New York.

Dr. R. E. Miller[1] advises **Enteroclysis** in summer diarrhœa of children.

Experiments prove that it is almost impossible to rupture an inflamed bowel by water injections, even if obstruction be present. Before rupture occurs the contraction of the sphincter muscle is overcome, and the water is expelled or escapes gradually through the ileo-cæcal valve into the small intestine and into the stomach, whence it may be expelled by vomiting.

A flexible catheter should be used, and the most satisfactory results are obtained by holding the vessel containing the fluid about two feet above the patient, and after a small amount of the water has been allowed to *trickle* into the gut, to gradually raise the reservoir to the height of three feet.

Water cooled by ice to a temperature from 52° F. to 55° F. is used when mild fever is present. If there is hyperpyrexia, the temperature is reduced to 43° F. From one to three pints may be injected into the gut, but from ten to twelve ounces are as much as the bowel will in most cases retain before expulsion takes place. The irrigations may be given every four hours, or even at shorter intervals during the height of the fever. The beneficial results are due to the abstraction of heat by cold water in hyperpyrexia, and to the stimulating effect of warm water in the algid stage, and especially to ridding the bowel of decomposing and septic matters. Among the conclusions arrived at, the following are important: (1,) That the dangerous effects of the poisonous animal alkaloids are either diminished or counteracted or dissipated by irrigations; (2,) The pulse becomes less frequent and stronger; (3,) The resistance which the fever offers to its reduction by this method is an index of the gravity or mildness of the case; (4,) That alcoholic stimulants are of importance in the treatment of the summer diarrhœas of children.

Dr. McConnell[2] in a case of severe infantile diarrhœa, gave as a last resort all the **Hot Water** the child could take through a nursing bottle. This was continued for twenty-four hours without any nourishment, and the case recovered. Other similar cases did well under this treatment.

Hot water here is a stimulant, an antiseptic, a sedative, and a food. Water will support life for a time. Transfusion of saline solution has rescued individuals from the grave. If we flush the stomach of the vomiting and purging infant with hot water for twenty-four hours, withholding all foods, and then, in small and easily-digestible quantities, at short intervals, give nourishment, we will very often rescue it from the grave. The writer commences with pure hot water, then adds salt, and when necessary sugar. The child will drink this with avidity, preferring it to the nurse; it will produce a quiet, peaceful sleep, and the extremities, that were previously cold and clammy, will become warm and natural.

Dr. F. W. Talley[3] first washes out the stomach and intestines with water, either pure or medicated with **Boracic Acid** or **Thymol.**

After thus cleansing the alimentary tract, as far as possible, of the colonies of bacteria and their toxic products, the next step is to administer antiseptic drugs, and the most efficient of these are **Calomel** and **Salol.** They are best given in small and frequently-repeated doses; 1 to 2 grains of calomel, or 1 to 4 grains of salol, daily in fractional doses, are enough for a child one year old. **Subni-**

trate of Bismuth in 5- to 10-grain doses, is an old and reliable remedy.

If the vomiting and purging, nervous symptoms, restlessness, delirium, or convulsions continue, **Opium** is indicated. Morphine hypodermically is the best form ; $\frac{1}{100}$ grain of morphine, with $\frac{1}{800}$ grain of atropine, may be given to a child one year old, and repeated in one hour if necessary. For hyperpyrexia the cold bath is the only treatment.

In an editorial[4] it is stated that after proper alimentation, three of the older remedies which are invaluable in the treatment of intestinal disorders of childhood are **Arsenic, Corrosive Sublimate** and **Podophyllin.** In children who have a constant tendency to laxity of the bowels, particularly during hot weather, about $\frac{1}{100}$ to $\frac{1}{200}$ of a grain of arsenious acid, or the arsenite of copper, or ¼ to 1 drop of Fowler's solution, tends to correct this tendency. Arsenic is indicated where there seems to be a leakage of liquid into the bowel. Where mucous is expelled in excess, after a laxative dose of rhubarb or castor oil, it is well to give $\frac{1}{500}$ or $\frac{1}{200}$ or even $\frac{1}{100}$ of a grain of corrosive sublimate three times a day, or $\frac{1}{1000}$ of a grain every two or three hours, well diluted. This exerts a peculiarly favourable influence where success is present. Podophyllin has its sphere of usefulness, not so much in the mucous diarrhœa as in the serous form. Where the stools are colourless, with a slight deposit, looking like wet, powdered chalk upon the diaper, surrounded by an area of more or less moisture, podophyllin in doses of $\frac{1}{20}$ to $\frac{1}{10}$ of a grain every two hours is to be given until signs of colour come back to the movements. The glands are thus stimulated to proper secretion without at the same time weakening the patient as when calomel is given.

Dr. William J. Gow[5] has studied the effect on sucklings of purgatives administered to the mother, as there is a wide-spread impression, especially amongst monthly nurses, that a disturbance of the infant's bowels is thereby produced. After a series of clinical observations, the following conclusions were reached : (1,) **Sulphate of Magnesium** administered to the mother frequently causes looseness in the suckling child ; and (2,) **Senna, Cascara Sagrada,** and **Aloes** rarely affect the child's bowels when administered to the mother. The latter remedies must hence be considered the most suitable to be used in the constipation of nursing women.

Dr. Henry Dwight Chapin and Dr. Eiloart[6] have considered the best way to treat cow's milk, so as to make it most acceptable to the infant's digestion—as in large cities the milk is from twenty-four to thirty-six hours old when delivered, some plan of getting a fresher

supply is urged. The milk is allowed to stand in a cool place for three hours, and the top half only, which has gained 2 per cent. in fat, is used. It is then pasteurized.

Barley or wheat water is considered the best diluent. The disadvantage in the employment of wheat or barley flour consists in the larger proportion of starch contained in these grains. This starch may be rendered more soluble and easy of assimilation by heat or diastasic action. In many cases the effect of prolonged heating upon barley and wheat flour seems to have a beneficial effect, particularly when there is a tendency to diarrhœa. The good results of the old flour ball, made by prolonged boiling of the wheat flour in a bag, have long been recognized. But the heat so applied does not produce its beneficial effect by chemically changing the starch, but probably from some physical alteration which renders it more effective as a diluent.

An analysis of some barley flour that had been heated for a week in an ordinary double boiler, showed that unheated meal taken from the same barrel yielded two-thirds more sugar and a quarter more dextrin than the heated meal, as the diastase of the latter had been partially paralyzed by heat. The method of heating was then abandoned, and the necessary change easily effected by means of diastase.

As a result of a number of experiments a most simple process was arrived at, by which in any kitchen a cereal food may be made containing three-fourths of the solid matter in a soluble form and having more or less sugar (maltose) as desired.

For a food containing about one third of the solid matter in the form of maltose, the following recipe may be used :—

RECIPE I.—*Materials.*—Wheat flour or barley meal 2 ounces (two tablespoonfuls heaped as high as possible); water, 56 ounces (a quart and three quarters); extract of malt, ½ a teaspoonful or a small teaspoonful.

Process.—With 30 ounces (a scant quart) of the water make the flour into a gruel, boiling ten minutes in a double boiler. Take out the inner vessel and add the rest of the water cold, the malt extract being dissolved in the last few ounces added. Let it stand fifteen minutes. Put back the inner vessel and heat again in the double boiler fifteen minutes. Strain through a coffee strainer of wire gauze.

If for any reason it is desirable, and in cases of diarrhœa, to give a smaller proportion of maltose, the following recipe is used, and we get a food containing only one fourth of the solid matter in the form of maltose :—

RECIPE II.—*Materials* as in Recipe I.—Proceed as before, but

reserve only 1 pint of the water for adding cold. After adding the cold water with the malt extract dissolved in the last few ounces of it, let it stand only three minutes instead of fifteen minutes. Then heat ten minutes in a double boiler and strain.

To make the gruel well and quickly, beat the flour with very little water. A little beating with little water is better than much beating with much water. Beat smooth, therefore, while the paste is still almost a dough; then add cold water to make a thin paste, and to this add the rest of the first part of the water boiling hot, with stirring. If these directions are followed, very few lumps will remain on the strainer; in fact, only about 5 per cent. of the meal need be lost in this way. The water in the outer vessel of the double boiler must be kept boiling throughout. Whichever recipe is followed, the food should be taken mixed with milk.

Dr. Lahmann[7] is quoted as advising **Vegetable Milk** when cow's milk is a source of difficulty and danger to the child. The fluid is obtained from the almond nut, which according to Stutzer's analysis is :—

Water	Vegetable Albumen.	Fat.	Sugar.	Salts.
20·62	12·00	34·72	31·00	1·64

When this is diluted with ten volumes of water it resembles human milk, and has the advantage of not decomposing in the intestines as rapidly as cow's milk.

Dr. Holt[8] gives the following plan for determining the composition of breast milk: The specimen taken should be after the breast has been about half emptied, or else the entire amount yielded by the breast. The specific gravity is taken with a small hydrometer, requiring only half an ounce for the test. A cylindrical tube or creamometer is filled to the zero line and the cream read off at the end of twenty-four hours. The percentage of fat may be calculated to be three fifths of the cream. The knowledge of these two factors enables us to judge whether the proteids are nearly normal, very high, or in very small amount.

Dr. Henry Dwight Chapin[9] states the addition to milk of **Peroxide of Hydrogen** is a harmless and fairly effectual method of preserving it. By its decomposition the extra atom of oxygen is given off, leaving water, which is certainly not injurious. From 1 to 2 per cent. is required, but the milk can be kept much longer by adding small quantities (0·5 to 1 per cent.) at certain intervals of time.

REFERENCES.—[1] "Therap. Gazette," July, 1893; [2] "Med. Record," June 17, 1893; [3] "Annals of Gynæcology and Pæd.," August 1892; [4] "Therap. Gazette," August 15, 1893; [5] "Practitioner," March, 1893;

[6] "New York, Med. Journ.," Sept. 16, 1893; [7] "Med. Press and Circular," August 30, 1893; [8] "Archiv. Pæd.," March, 1893; [9] Ibid., August, 1893.

Synopsis.—(Vol. 1893, p. 167.) Demieville gives injections of 6 per cent. **Salt Solution** under the skin of the belly for infantile gastro-enteritis, giving 120 to 150 grammes of this solution sterilized to a child four and a half months old; **Massage** is practised after injection to promote absorption. Fussell gives **Salol** in 5 gr. doses with **Bismuth**, 10 grs. and **Chalk Mixture**, 2 drachms; he gives infants 3 gr. doses of **Salol**, and considers it relieves pain, and is quite safe.

DIPHTHERIA. *Henry Dwight Chapin, M.D., New York.*

Dr. Heischfeld[1] treats diphtheria with **Pilocarpine.** A strong purgative is given at first, calomel together with compound powder of jalap, while the pilocarpine mixture is prescribed at once. Children bear the drug comparatively better than adults.

It is advisable to combine every dose of pilocarpine with some alcohol, to counteract any depressing effect, and to correct the taste with syrup of orange, which generally proves agreeable to the little patients. Thus, for a child six years old:—

℞ Pilocarpin. gr. ⅓ | Syrup. Aurant. ℥j
Spir. Vin. Gall. ℥iv | Aquæ, q. s. ad ℥iij
Sig.—1 teaspoonful every two hours.

As a rule, this will be sufficient for the purpose; if not, it can readily be increased and taken every hour. The action of the medicine is generally very satisfactory. The physiological effects of the pilocarpine—sweating and salivation—begin to show themselves sooner or later, according to the individual susceptibility to the drug, generally within twelve hours. The temperature goes down as soon as perspiration has fairly set in, while the casting off of the false membrane often takes place in surprisingly quick time. It is not advisable to discontinue the pilocarpine at once, but break it off gradually.

Organic diseases or fatty degeneration of the heart contra-indicate the use of the alkaloid of jaborandi.

Drs. E. Hübner and N. Rosenthal[2] advise the use of **Chloride of Iron,** as recommended by Rehn. The throat is painted twice daily, and in very severe cases three times, with a solution of 4 equal parts to 1 part in 5. There was frequent sprinkling of the throat with weakened lime water, the use of ice pellets, and an ice bandage about the throat.

Dr. Simon[3] employs the following topical application:—

℞ Salicylic Acid gr. xv | Glycerine āā ℥iss
Infusion of Eucalyptus | Alcohol q. s. to make a solution.

After this has been thoroughly applied to the affected area, he paints

the part with a solution of **Perchloride of Iron** and **Glycerine** in equal parts. He also employs irrigation of the mouth and nasal cavities, using in each instance **Boric Acid** and water, or a 1 to 100 solution of **Carbolic Acid** and water. Where there are fissures and cracks of the lips or gums, or if a pseudo-membranous inflammation has passed by, he applies **Nitrate of Silver Stick** daily lightly to the surface.

Dr. E. Kraus[4] uses **Iodum Tribromatum** administered in the form of a gargle (20 drops to 300 grains of water), or by inhalations or douches. There is a possibility of producing iodism, and this danger needs to be watched for.

Dr. A. Jacobi[5] states that **Peroxide of Hydrogen** is too irritating for local use in diphtheria.

Dr. J. L. Smith[6] considers that the irritating action of peroxide of hydrogen may be prevented by adding to it the sodium bicarbonate in the sick room just before its use in sufficient quantity to neutralize its acidity as ascertained by litmus paper ; and by so doing its germicide and antiseptic properties do not appear to be lost.

He prescribes for spraying the fauces hourly or every two hours the following :—

℞ Squibb's Peroxide of Hydrogen ℥ij

℞ Sodii Bicarbonat. gr. x | Aquæ dest. ℥ij

℞ Aquæ dest. ℥ij

One teaspoonful of each to be mixed in the bottle of the hand atomizer, immediately before using it. The nostrils may be sprayed with the same, with the addition of two teaspoonfuls of water.

Dr. Geo. Carpenter[7] reports three cases of vulvar diphtheria in infants. This is very rare, and may or may not be associated with diphtheritic pharyngitis, pharyngo-laryngitis or other seat of election for membranous deposit.

Dr. Fischer[8] has used **Pyoktanin** or methyl violet in the treatment of fifteen cases of diphtheria. The method of applying it was in an aqueous 10 per cent. solution directly to the affected parts by means of a glass rod around which a pledget of cotton soaked in the solution was used. Five minutes before each application the child received a teaspoonful of bicarbonate of soda dissolved in a tablespoonful of water. The applications were made twice daily, and no other treatment given.

Dr. Wm. D. Booker[9] reports a case of primary laryngeal diphtheria in which the clinical examination and autopsy showed the parts of the throat above the epiglottis to be entirely free from inflammatory action. The evidence obtained by more exact methods of study is altogether against the existence of idiopathic croup or pseudo-membranous

inflammation of the larynx independent of some infectious disease, and supports the view that the supposed idiopathic croup is a true diphtheria of the larynx, or in rare cases may be the result of other infectious diseases, *i.e.*, measles and scarlatina. Dr. Booker found diphtheritic bacilli in the spleen and other organs of the child examined, which agrees with the recent investigations of Frosch, that these bacilli may pass from the original seat of infection to other organs of the body.

Dr. R. W. Lovett[10] compares intubation with tracheotomy in a study of eight hundred and fifty-eight cases. Up to 1887, tracheotomy was performed in three hundred and twenty-seven cases of croup, and ninety-five or 29·05 per cent. recovered. From Dec. 31, 1886 to Jan. 1, 1891, one hundred and thirty-nine tracheotomies were done, and 11½ per cent recovered; while three hundred and ninety-two intubations were done, and eighty or 20·71 per cent. recovered. However, the tracheotomies were done in only the severest and most desperate cases, and, therefore, according to the writer, should not be taken into account in any way.

He concludes from an analysis of these cases that the death rate from intubation is 9 per cent. higher than from tracheotomy, and that accidents during intubation are much more common. The reasons for this increased mortality are, in his opinion, two; intubation does not afford such good drainage to the trachea, and only a limited amount of nourishment can be taken by the intubated patient. In general, he would advocate the performance of tracheotomy instead of intubation in most cases of severe laryngeal diphtheria, except in the cases of children under two years, when intubation is to be preferred.

REFERENCES.—[1] "Australasian Med. Gazette," Apr., 1893; [2] "Therap; Monatshefte," Dec. 1892; [3] "L'Union Médicale," June 3, 1893, [4] "Arch. f. Kinderh.," 1892, xiv; [5] "Archiv. Pæd.," Dec., 1892; [6] Ibid., Aug., 1893; [7] Ibid., Feb., 1893; [8] "Med. Rec.," 1892, xlii.; [9] "Archiv. Pæd.," Aug.," 1893; [10] "Med. News," 1892, lxi.

[*Editorial.*

Aitken[1] relies on the following points in the differential diagnosis between diphtheria and follicular tonsillitis:—

DIPHTHERIA.	FOLLICULAR TONSILLITIS.
Invasion gradual, often insidious.	Invasion abrupt.
Temperature.	*Temperature.*
Rises gradually, may be high throughout. Course of fever irregular.	For first twenty-four hours 102° to 105° F.; lasts three days.
Often little disturbance till third day. Marked asthenia.	Most general disturbance first day; no tendency to asthenia.

Pulse.	*Pulse.*
When rapid becomes feeble, may be slow and irregular.	Rapid and full.
Glandular swelling almost invariably present.	Glandular swelling absent.
Reaches height in four or five days.	Reaches height in twenty-four to thirty-six hours.
Nasal regurgitation and bloody discharge often present.	No nasal regurgitation or bloody discharge.
Albuminuria is present with low temperature.	Slight albuminuria only if temperature is high.
Highly contagious	Contagion doubtful.
Paralysis common, even after milder cases.	No paralytic sequelæ.
Prevails epidemically.	Cases may have a common origin, *e.g.*, sewer gas.
Exudation.	*Exudation.*
Fiery blush over whole throat.	Blush usually on tonsils only.
Isolated spots, coalesce, grey early, greenish later.	Isolated yellow spots, or continuous membrane.
On tonsils, uvula, and pharynx.	On tonsils only.
Mucous membrane bleeds readily on removal of diphtheritic membrane.	Mucous membrane does not bleed on removal of the grey spots.
Infiltrates tissue and cannot be wiped off.	Superficial, often can be wiped off, not adherent.
Reforms if forcibly removed.	Does not reform after removal.
May not appear for forty-eight hours.	Appears early.
Spreads.	Does not spread.
Frequently unilateral for two days.	Always bilateral.
Clears off slowly, lasting from five to twenty days.	Clears off quickly.

Schwarz,[2] on finding suspicious places, at once orders for children under three years **Sodium-Sozoiodol,** gr. xlv., and **Sublimated Sulphur**, gr. clxxx. For children up to five years a 50 per cent. mixture ; and for still older children, pure sodium-sozoiodol, and has this blown into the mouth and nose every four hours. He also gives the children a tablespoonful every hour of a solution of **Chlorate of Potassium,** 15 to 22 grains to 6 fluid ounces. He pays great attention to the action of the heart, often ordering a stimulant, usually a decoction of cinchona

with cognac or Malaga wine. For swelling of the glands **Mercurial Ointment** is rubbed in. The bad form, complicated with retention of the urine, of which he only had two cases, he combated with large doses of **Calomel.**

Howatson[3] has successfully adopted the following measures :—

(1,) Locally : **Tinct. Ferri. Perchlor. Quin. Sulph. Glycerine** in solution. Throat to be regularly brushed with this.

(2,) Internally :—

℞ Liq. Hydrarg. Perchlor.	ʒiv	Glycerin	ʒj
Potassii Iodidi	gr. xv	Aq. Anethi ad	ʒiv
Tinct. Nuc. Vom.	♏xxxij		

Sig.—2 teaspoonfuls every two hours and a half night and day.

Lescure[4] advises the local application of **Chromic Acid** by means of a camel's-hair brush, using the following solution :—

℞ Chromic Acid	2 grms.	Distilled Water	5 grms.

Care should be taken to remove any excess of the acid. These applications are to be followed by those of **Tannic Acid**, made also with a camel's-hair brush, using this combination :—

℞ Tannic Acid	6 grms.	Glycerin	30 grms.

Internally the following formulæ are recommended :—

℞ Tinct. Eucalyptus	3 to 10 grms.	Syrup of Orange	30 grms.
Mucilage of Acacia	90 grms.	M.	

Sig.—To be taken in tablespoonful doses in the course of the twenty-four hours.

℞ Tincture Nux Vomica	10 grms.	Malaga Wine	200 grms.
Extract of Cinchona	5 grms.	Syrup of Orange	100 grms.

M. Sig.—3 dessertspoonfuls per day.

The tincture of nux vomica is to be regulated so as to administer from 3 to 8 drops in the twenty-four hours, according to the age of the patient.

For diphtheria in an adult, the following is a useful formula[5] :—

℞ Quininæ Sulphatis	gr. ij	Tincturæ Aurantii	♏x
Liq. Hydrarg. Perchlor.	♏x	Aquæ ad	ʒj

Misce et fiat mistura.

Sig.—Shake the bottle, and give 2 tablespoonfuls three times a day.

Bonain[6] recommends evaporation of **Essence of Turpentine** (150 to 500 gr. in twenty-four hours), and vaporization of water under a tent, until the infant is cured. The turpentine is antiseptic, prevents extension of membrane to the bronchial ramifications, and ozonizes the diphtheritic intoxication.

Kersch[7] recommends for the internal treatment of diphtheria a mixture of 5·0 **Soda Salicylate**, 5·0 **Potass. Iodide**, 200·0 **Aq.** and 30 of **Syrup.** A tablespoonful every hour.

Munn[8] states that the local medicaments which gave him most satisfaction were **Hydrogen Dioxide, Corrosive Sublimate, Carbolic Acid**, and **Lime Water.** While he has used trypsin and an extract of pancreas, he does not consider them as valuable as corrosive sublimate or hydrogen dioxide sprays, which, by the way, he applies every hour, or even every half-hour.

Flahaut[9] records two series of cases treated by applications of **Petroleum,** without a single death. The nature of the disease was clearly established by clinical as well as bacteriological evidence. Every hour or every two hours the throat should be painted with a brush steeped in crude petroleum ; it is well to give the brush a little shake before using it, in order that there may be no excess of liquid to trickle into the respiratory passages. The applications cause no pain, even when the mucous surface is raw and bleeding ; and they are immediately followed by separation of the membranes, which seem to be dissolved by the petroleum

Dr. F. H. Williams[10] records some observations upon the local use of **Peroxide of Hydrogen** in diphtheria. By means of an atomiser or a syringe, solutions of the peroxide are applied to the membranes. The problem is to treat early, to disintegrate and tear off the membrane. In the syringe a 16 per cent. or more often a 32 per cent. solution should be used, applications being made, of a few drops each, into and underneath the membrane wherever needed. This should be done daily from one to three times or more often for the first day or two, after which the spray alone will suffice. The spray should also be used in fifty (8 per cent.) or a hundred volume (16 per cent.) strength, once in four hours, although it may be desirable to use it oftener in some cases. Where the membrane yields readily to the spray this may be used at first to clear away as much as possible of it, and the remainder may be cleared by the syringe. The treatment to be effective must be energetic and well carried out in the early days. Besides treating the membrane locally, it is well to use antiseptic prophylactic treatment in the pharyngeal and nasal regions, such as douches or sprays of fifteen volume (2·4 per cent.) peroxide solution or diluted chlorine-water. (See also Dr. Chapin's article, p. 190.)

REFERENCES.—[1]"American Pract. and News," Oct. 8, 1892 ; [2]" Internationale Klinische Rundschau" ; [3]Howatson, "Prov. Med. Journ.," May 1, 1893 ; [4]" Bulletin Général de Thérapeutique" ; [5]" Practitioner," June, 1893 ; [6]" Brit. Journ. Laryngology," June, 1893 ; [7]" Memora-

bilien," No. 1, 1892 ; [8]"Med. News," March 25 and April 1, 1893 ; [9]"Normandie Méd.," No. 3, 1893 ; [10]"Boston Med. and Surg. Journ.," Sept. 29, 1892.

Synopsis.—(Vol. 1893, pp. 29 and 179.) Stuver employs **Hydrogen Peroxide Solution**, 4 to 8 ozs., containing mercury bichloride, 1 gr. locally applied. Smith advises continuous **Inhalation of a Vapour** as follows: Carbolic acid, 1 ; Eucalyptus oil, 1 ; Turpentine, 8 parts. *Jules Simon's treatment:*—℞ Ac. Salicylic, 0·60 centigrammes ; Infus. Eucalyptus, 60 grms. ; Glycerine, 40 grms. ; Alcohol, 15 grms. M. The throat is cleared with a mop of antiseptic cotton, avoiding wounding the mucous membrane, and the solution is applied with a fresh mop, both mops being immediately burnt. In the intervals irrigation with hot water containing **Borax**, 4 per cent. is used, and a spray of **Thymol Solution** is kept going in the room. It is better to change the child into another room during the day, or else use **Oxygen Inhalations**. **Port** or **Sherry** is given frequently, and also 3 to 6 drops of **Perchloride of Iron** internally. No opium is used, but if child is five years old, Simon adds a preparation of **Cubebs** and **Copaiba**. *Gaucher's treatment.*—℞ Camphor, 20 grms. ; Olive Oil, 15 grms. ; Alcohol at 90°, 10 grms. ; Ac. Carbolic (Cryst.) 5 grms. ; Ac. Tartaric, 1 grm. M. Sig.—Gaucher uses a rough brush without guarding against destruction of false membrane, and applies it night and morning, using an irrigating solution of 1 per cent. **Carbolic Acid**. This is very painful treatment, and care must be taken not to drop the strong solution into the pharynx. Legroux used ℞ Glycerine, 20 grms. ; Alcohol, 10 grms. ; Creasote, 1 grm. M. Sig.—Apply on a brush twice daily, and keep a spray going of **Creasote** 100 to **Alcohol** 1000 parts. In very serious cases Legroux uses **Hypodermic Injections** of ℞ Aseptic Olive Oil, 150 grms. ; Creasote, 20 grms. ; this is also said to prevent broncho-pneumonia after tracheotomy. *Legendre's treatment.*—℞ Naphthol, 5 grms. ; Alcohol, 5 grms. ; Glycerine, 100 grms. M. Sig.—Use on a cotton wad several times a day, and irrigate with ℞ Naphthol, 0·20 ; Water, 1000. Hutinel uses ℞ Terpine Hydrate, 8 grms. ; Hydrarg. Bichlor., 0·30 c. grms. ; Ess. Mint, 100 grms. ; Alcohol, 100 grms. ; Ess. Thymol, a few drops. M. Sig.—Use on a cotton wad, and irrigate every two hours with hot **Borax Water**, together with **Sodium Benzoate**, 3 to 12 grms. internally. ℞ Ac. Carbol., 10 grms. ; Sodii Sulforicinat., 90 grms. M. Apply on wads of cotton and allow it to adhere to pharynx as long as possible—the newest form of treatment. For infants, ℞ Glycerine, 30 grms. ; Ac. Salicyl., Terpine (or Creasote) āā 60 c. grms. ; Alcohol, q.s., to dissolve. M. Sig.—Used locally ; or, ℞ Sod. Sulforicinat, 80 grms. ; Salol, 10 grms. ; Creasote or Terpine, 2 grms. Sig.—Apply to throat every three hours, and use a spray to moisten atmosphere, *e.g.*, 3 per cent. **Boric Solution**. Seibert injects fresh **Chlorine Water** (U.S.P.), through the false membrane into the inflamed mucosa below, injecting 15 drops at each spot, and making 6 or 8 injections at a sitting. Bloebaum destroys false membrane by **Galvano-cautery**: this must be used early, and the burn is powdered with **Dermatol**. Stein uses a gargle of **Lime Water** and **Distilled Water**, equal parts, followed by powdering with equal parts washed **Sulphur** and **Quinine**, blowing the powder into the nose if rhinitis exist. Josias employs **Sulforicinated Phenol** (Phenic Acid, 20 grms. ; Sodium Sulforicinate, 80 grms.) applied by a tampon dipped in 20 per cent. solution and used four times by day, and once or twice at night. Ozegowski treats faucial diphtheria with ℞ Ac. Carbol. Cryst., Ac. Citric. Cryst., Tr. Iodi, āā 3 vel 5 grms. ; Cognac

or fine Champagne, 100 grms. Sig.—Apply with a cotton swab. Florin advises ℞ Zinc Chloride, ʒiv; Yellow Powder of Quinquin., ʒiv; Honey, q.s., to make a thick paste. Sig.—Apply freely with cotton on a holder. Bowman uses **Permanganate of Potash,** 3 grs. to ounce, applying with a large camel's hair brush every hour for eight or twelve hours, and then every two or six hours. Baginsky gets best results from **Corrosive Sublimate,** 1 to 3000, as a wash, and 1 to 500 dabbed on, the next best being 3 per cent. alcoholic solution **Carbolic Acid,** but its taste is very repugnant; caustics do harm; the **Ice Bag** locally and **Ice** internally may be used until inflammatory infiltration has subsided. Internally **Heavy Wines** are employed, and for collapse **Cognac** and **Subcutaneous Injections of Camphor in Oil,** and 10 per cent. **Alcoholic Solutions.** Wilhelmy recommends application of 20 per cent. solution **Chloride of Zinc,** with use of **Ice,** and the following **Gargle**: ℞ Aq. Calcis, 300·0; Glycerini, 30·0; Ol. Menth. Pip. gtt. v. Wilkowskij uses concentrated **Salicylic Acid** locally; ℞ Ac. Salicyl., 0·6 grms.; Alcohol, 4·0 grms.; Glycerine, 4-8 grms. Sig.—Warm and apply two or three times daily. Smart treats membranous croup and laryngeal diphtheria by an occasional emetic of **Turpeth Mineral,** and 5 to 12 grs. **Iodide of Soda** every one, two or three hours according to circumstances. **Intubation of Larynx** is reported to have been followed by recovery in 34·75 per cent. of cases treated according to Waxham, but Prescott and Goldthwait report a mortality of 79·59 per cent. for intubation, and 88·5 per cent. for tracheotomy cases, but the nature of the epidemic has to be taken into account. Soupault advises the use of **Creasote** in tracheotomy cases as a preventive of broncho-pneumonia; ℞ Glycerini, 500 grms.; Rum, 100 grms.; Creasoti, 10 grms. Sig.—2 teaspoonfuls for a dose in young children, increased to 4 for children five years of age. After tracheotomy cover the cannula with absorbent cotton pledget, moistened with ℞ Glycerini, 20 grms.; Alcohol, 10 grms.; Creasoti, 1 grm.

DYSENTERY.

Daland's[1] experience of dysentery in Nicaragua leads him to recognize three forms—the malarial, the endemic, and the epidemic. These differ chiefly in degree; the malarial is the most common, and the epidemic is the most severe. In the malarial form, Bermudez gives adults **Quinine,** 6 grs., morning and evening, together with:—

℞ Ammonium Chloride	gr. v	Tr. Opii	gtt. x to xv.
Pulv. Ipecac.	gr. v		

To be repeated every two hours.

When the pain is particularly severe and obstinate, **Morphine** is superadded, and, in cases marked by debility, it is customary to administer the **Carbonate of Ammonium** in 5-grain doses every two hours, day and night.

In the way of food, nothing is permitted except milk or milk and lime-water, to which sago may be added. The patient is allowed to drink freely of cool water; but ice-water is considered harmful.

In the epidemic form, quinine is given in 10 to 20-grain doses three times a day; and, if there is much gastric irritability, 15 grains of **Bismuth,** or 5 grains of **Tannic Acid,** is substituted for the ammonium and ipecac. mixture. In some cases, **Nitrate of Silver,** gr. $\frac{1}{6}$ to $\frac{1}{3}$, in pill, every three hours; or **Acetate of Lead,** 2 or 3 grs., every three hours, is of service. When stimulants are required, either of the red or white wines, associated with **Ammonium Carbonate,** 10-grain doses, every three hours, is better than whisky or brandy.

In acute dysentery, Liebersohn[2] employed enemata of **Tannin** and **Boracic Acid,** at 36° C. Each enema contained ¼ fl. pound of a 4 per cent. solution of boracic acid, 10 grains of tannin, 3¾ drops of opium tincture (Ph. Ross), and 1 or 1½ tumblerfuls of hot boiled water. The injections were repeated every three hours, and retained in the bowel for one or two minutes each time. Under their use, hæmorrhage was arrested, pain and tenesmus were relieved, the stools became natural, and the course of the disease was shortened.

Lojkin[3] commends **Lactic Acid** as having cured chronic cases after nitrate of silver, bismuth salicylate, tannin, etc., had all failed. He gave ½ a tumblerful of a 2 per cent. solution twice a day.

Rovacs[4] states that, in order to demonstrate the presence of the amœba in amœboid dysentery, it is necessary to make the examination within three or four hours of defæcation; otherwise, all movement is lost, and detection baffled. Rovacs has found success follow the use of **Quinine Irrigations** (1 in 1000) of the bowel.

REFERENCES.—[1] Daland, "Therap. Gaz.," Dec. 15, 1892; [2] Liebersohn, "Vratch," No. 38, 1892; [3] Lojkin, "Lemsky Vratch," Nos. 49 and 50, 1892; [4] "Med. Press and Circ.," Dec. 21, 1892.

Synopsis.—(Vol. 1893, p. 187.) The value of **Ipecacuanha** in cutting short attacks of acute catarrhal dysentery seems to have been much overrated. In a recent trial such cases showed distinct improvement after the use of ipecacuanha sine emetina for 3·3 days on an average, but another series of cases did equally well in three days with 1 or 2 doses of **Dover's Powder** per day. Walsh treated twenty cases with **Emetin Mercuric Iodide** with average duration of dysenteric stools for 4·9 days, and in ten cases **Holarrhena Antidysenterica** gave an average of 5·7 days. Owen treated one hundred and fifty cases with **Tincture of Aconite** for an average period of 4·05 days. Leahy treated ninety-five cases with saturated solution of **Magnesium Sulphate** every hour, obtaining feculent motions after about two days' treatment. Probably rest in bed and milk diet is the most important factor in treatment. Warm rectal injections of 1 in 5000 **Bichloride Solution** or **Boric** or **Carbolic Acid** give good results, rapidly lessening pain and tenesmus. Lardier and Pernet used warm **Boracic Acid Enemata,** together with capsules containing **Iodoform,** ¾ gr., and **Opium,** ¼ gr. five or six times daily. Gruet prefers **Sulphate of Soda** to ipecacuanha and calomel.

DYSMENORRHŒA.

In treating functional dysmenorrhœa, Oliver[1] recommends that the food be plain, and that gentle exercise be taken and an attempt made to establish the custom of having a morning evacuation of the bowels. In cases where there are pain and nausea, no matter whether the disturbance is central or in the organs themselves, the writer finds good results from a large dose of **Bromide** given at bedtime, for a week midway between the periods, and 5 grains of **Antipyrin** every hour beginning as soon as there is any indication of the approach of menstruation, and continued, if necessary, until about half a dozen doses are taken. When the discharge is scanty, and especially when the pain seems to be due to vascular spasm, the patient should take a hot bath each night for a week preceding the period, and afterwards a a mixture of the three bromides, the dose varying from 10 to 20 grains of each. If the pains appear to be dependent upon gastro-intestinal disturbance, a mixture containing either **Chloride** or **Hypophosphite of Calcium** should be administered during the intermenstrual epoch.

Smith[2] considers that these cases call for attention to habitual constipation ; removing other obstructions to the pelvic circulation generally ; improving the circulation in the pelvis by very **Hot Douches** and **Boro-Glyceride Tampons; Rapid Dilatation; Curetting** (with or without the intra-uterine tampon), and **Pessaries** with and without an intra-uterine stem ; the external application of the **Galvanic Current** ; the application of the same current with one pole in the vagina against the uterus, and the other on the abdomen or on the sacrum, as a tonic to the vaso-motor plexus of the pelvis ; and last, but most important of all, the application of a **Mild Galvanic Current** to the inside of the uterus by means of the ordinary uterine sound insulated to within two and a half inches of its end and to the handle of which the negative pole of the battery is attached. The only method of treatment which can at all compare with the treatment by galvanism is rapid dilatation, with subsequent application of a mild caustic to the interior of the uterus, and drainage either with iodoform gauze or with a vulcanite or glass stem or tube so arranged as to remain for some time and to allow perfect drainage of the uterus.

Dr. Handfield-Jones[3] sums up his treatment as follows : When endocervicitis or endometritis is present these conditions should be removed by the use of **Leeching, Saline Aperients,** the application of **Carbolic Acid** or **Iodised Phenol,** and **Hot Douching** ; but when no evidence of active disease can be found and a tender condition of the nerve endings is alone recognisable, then **Rapid Dilatation** will bring about a cure most speedily. How this latter remedy acts is not quite

clear, but it is an undoubted fact that a very moderate amount of dilatation will diminish to a most marked extent the sensitiveness of the tissues at the level of the os internum.

Berger[4] employed **Santonine** in 10-grain doses for the relief of uterine colic. One dose taken at night on the first approach of the menstrual molimen was invariably followed by painless flow.

Forez[5] states that **Irrigation of the large Intestine with Hot Water** gives great relief in dysmenorrhœa even where moderate doses of opium fail. The patient is placed in Sims's posture, and about a quart of hot water is injected slowly into the rectum and retained for five minutes. Its expulsion brings away masses of fæcal matter. Then a greater quantity of hot water is thrown in and retained as long as possible, serving as a tepid bath or internal poultice to the surrounding parts. Its analgesic effect is wonderful, to say nothing of the distinct antiphlogistic power hot water thus used seems to possess. A third injection, of a pint of the liquid, is retained. **Alkaline Salts,** such as those of sodium or lithium, may be added to the water, or natural mineral waters may be used.

O'Sullivan[6] describes some cases of severe dysmenorrhœa, complicated with hystero-epilepsy, which he had treated most successfully with hypodermic injections of **Hyoscyamine**, $\frac{1}{80}$-grain doses at first, and gradually increasing to $\frac{1}{60}$ grain, administered during the menstrual epoch. After a very short course of treatment the intolerable pain ceased, as did also the convulsive attacks.

REFERENCES.—[1]"Edinburgh Med. Journ.," July, 1892; [2]"American Journ. of Obstetrics," August, 1892; [3]"Brit. Med. Journ.," May 27, 1893; [4]"Therapist"; [5]"Journ. d'Accouchements," June 15, 1892; [6]"Prov. Med. Journ.," June 1, 1893.

DYSPEPSIA.

For constantly repeating acid eructation, distension, and heart-burn:—

℞ Ol. Creasoti pur.	♏ xij	Glycer. pur.	℥vj
Sp. Tenuioris	℥ijss	Infus. Caryophylli ad	℥vj
Ammon. Benzoat.	℥ij		

Ft. Mist.

Sig.—A $\frac{1}{1\frac{1}{2}}$ part to be taken in 4 ounces of water two or three times daily between meals.

If the acidity is considerable, a little alkali—potassa is best—can be added to each dose as required.

REFERENCE.—"Asclepiad," No. 38, vol. x.

Synopsis.—(Vol. 1893, pp. 9, 47, 48, 174 and 190.) **Anemonin,** $\frac{3}{4}$ to $1\frac{1}{2}$ grs. for catarrhal dyspepsia; **Solanin,** 5 c. grammes half-an-hour before meals for painful dyspepsia—best given in gummy solution if pain is acute.

Strontium Bromide, 30 to 45 grs. in three daily doses for dyspepsia with flatulence, hyperacidity and pain. Ewald recommends **Benzoyl-Naphthol** as an intestinal antiseptic, and **Creasote** as a gastric antiseptic, using 2 to 5 of the following pills three times a day: ℞ Pure Creasote, ·05 gramme; Balsam of Tolu, ·02 gramme. **Guaiacol** may be given in spirituous solution, 10 grs. in 150, of which 45 to 60 drops may be given several times a day. **Salicylate of Bismuth** also has an antifermentative action and relieves pain. The following may be used to disinfect the stomach and intestine: ℞ Creasote Puriss., Resorcin Sublim. āā 5·0; Ext. Gentiani, 2·0; Pulv. et succ. liquidit. q. sat. u.f. pilula no. C.; Obduc. mass. Cacao. Sig.—2 pills thrice daily at first, then increased to 3 or 5. ℞ Resorcin Sublim., Bismuth Salicyl., Benzoyl-Naphthol, āā 10·0–15·0; Pulv. Rad. Rhei, 75·0; Pulv. Rhiz. Calami, Sacch. alb., Sod. Bicarb., āā 5·0. Sig.—A teaspoonful every two hours. Dujardin-Beaumetz advises a certain diet with use of baths and **Antiseptic Cachets** either for irritative or atonic dyspepsia. In severe cases only milk and eggs are allowed; in medium cases starchy food, green vegetables and boiled fruit may be added; and in mild cases well done meat and meat jellies may be used. In all cases, **Cold Douches** or **Scottish Douches** or **Warm Alcoholic Lotions** may be used. Where diarrhœa is present the following cachets may be used: ℞ Salol, Bismuth Salicyl., Cretæ Prep., āā 10 grammes (2½ drachms). Sig.—To be made up into 30 cachets. If constipation exist, ℞ Salol, Benzo-Naphthol, Sod. Bicarb. āā 10 grammes. Sig.—Make up into 30 cachets. If there is much flatulence, ℞ Benzo-Naphthol, Bismuth Salicyl., Hydr. Magn., āā 10 grammes. Sig.—Make up into 30 cachets. If intestinal gases are very putrid, **Salicylate of Bismuth** or **Salol** should be prescribed.

DYSPNŒA.

Synopsis.— (Vol. 1893, pp. 18, 104.) **Coronilla Scorpioides Tincture**, ♏45 daily, in dyspnœa due to aortic or mitral valvular disease. When due to advanced Bright's disease, a **Carefully Regulated Diet** and frequently repeated **Saline Laxatives** with **Digitalis** and **Caffein**, are advised by Steele.

EAR (Diseases of). *J. Dundas Grant, M.D., F.R.C.S.*

1.—The Clinical Investigation of Cases of Ear Disease.

The existence of ear-disease is suggested by the patient complaining of one or more of the Cardinal Symptoms: (*a*,) Defect of hearing; (*b*,) Pain in or around the ear; (*c*,) Discharge from the ear; (*d*,) Tinnitus (singing, beating, rushing); and (*e*,) Vertigo; or (*f*,) Visible alterations in the external parts. As will be seen later on, *most of these symptoms may arise from extra-aural causes*: thus defect of hearing may be due to cerebral lesions; pain in the ear is frequently reflected from diseased teeth, tongue or throat; tinnitus aurium may be due to increased arterial tension, anæmia, toxic or other general causes, and vertigo may originate from gastric, renal, and other disturbances. On the other hand *constitutional disturbance of even the most profound kind may arise from unobserved ear-disease*, notably some obscure cases of sep-

ticæmia, in which, as Sir Dyce Duckworth has pointed out, it would be as criminal to omit to examine the ear as it would be to fail to search for a hernia in a case of obstruction of the bowels.

Before examining more fully it will be found advisable to enquire as to the *mode of onset*—sudden, acute, with or without pain, insidious or gradual; and as to the *duration* of the symptoms and their order of occurrence. The *supposed cause*, *e.g.*, injury, bathing, cold, throat affection, exanthemata, syphilis, gout, rheumatism, quinism, salicylism, etc., should be directly and indirectly investigated, due allowance being made for intentional and unintentional error on the patient's part. It may be here noted that insidiousness of onset and indefiniteness of cause (with early occurrence of tinnitus) are very characteristic of the sclerotic form of middle-ear catarrh.

(*a*,) IMPAIRMENT OF HEARING-POWER may arise from disease or obstruction in the external meatus, in the tympanic membrane or middle ear (including the Eustachian tube), in the labyrinth, in the auditory nerve or nuclei, or in the auditory cortical centre and strands leading to it. When the disease is in the external or middle ear the impairment of function is termed "obstructive deafness," and when in the labyrinthine or intracranial distribution of the auditory nerve, "nerve deafness." The hearing is usually tested by means of the *voice*, the *watch*, the *tuning-fork*, and *Galton's whistle*. Professor Politzer uses as a source of sound of constant intensity an instrument termed the *acoumeter*.

The *hearing for the voice* is best indicated by the distance at which the patient can hear *whispered words*. A ready method is to note whether at two yards the patient can hear *whispering*, *ordinary*, *loud* or *shouting* conversation. This practical test should never be omitted. It will be found, as a rule, that in cases of obstructive deafness the hearing for the watch is relatively less affected than hearing for the voice, whereas patients with nerve deafness may hear the voice fairly well when the watch-tick is almost entirely unperceived.

The *watch-tick* is a useful means of measuring the progress of the case. The distance at which the watch in use can be heard by a normal person should be ascertained, and this distance in inches, say 60, be written down as the denominator of a fraction, the numerator place of which is filled by the distance at which the patient hears it.

Thus, the patient hears such a watch at 5 inches with the right and 2 with the left ... ... } $\frac{5-2}{60}$

The patient hears it only when in contact with the right, not at all with the left ... ... } $\frac{c-co}{60}$

The test must be made by placing the watch beyond the hearing-distance and bringing it nearer till the patient hears it.

As thus used the watch is a test of the perception of sounds conveyed by the air and by the tympanic apparatus—"air-conduction." It may, however, be used as a very delicate test for the perception of sounds conveyed through the bones of the head directly to the nerve—"bone-conduction," being placed in contact with the temple.

The *tuning-fork* is held vibrating opposite the meatus for "air-conduction," and on the mastoid for "bone conduction." A very practical form of instrument is the late Gardiner Browne's, tuned to the middle C, as corresponding fairly to the pitch of the human voice in speaking. It has a button at the extremity of the shank which makes it comfortable to the head and a roughened expansion midway in the shaft by which it can be conveniently held. To test "air-conduction"

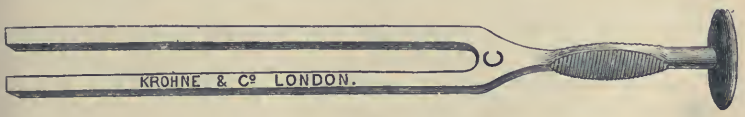


Fig. 15.—Gardiner Browne's Tuning-fork.

it is set vibrating by a stroke on a soft body—the observer's knee—and is then held opposite the patient's meatus, who is to "say when it stops." At this moment the observer holds it opposite his own meatus and notes how many seconds longer he hears it. This is written down as a negative quantity. To test the "bone-conduction" the observer places the button of the vibrating fork on the patient's mastoid till it "stops," when he applies it to his own mastoid. If he hears it longer he notes the number of seconds as a negative quantity indicating the amount of loss of bone-conduction—degree of nerve-deafness. On the other hand, if the observer does not hear it longer than the patient, bone-conduction may be normal (±) or increased (+), the latter occurring usually in obstructive deafness. He, therefore, sets the vibrating fork on his own mastoid, and when he ceases to hear it applies it to the mastoid of the patient and counts how many seconds, if any, the patient hears it longer than he did himself. These observations may be conveniently noted in a formula thus :—

The patient hears the tuning-fork at the meatus 10 seconds less than the observer; on the mastoid 10 seconds longer than the observer.

$$\text{T-F.}\ \frac{\text{meatus} - 10}{\text{mastoid} + 10}$$

If the patient does not hear it at all, either at the meatus or on the mastoid.

$$\text{T-F.}\ \frac{\text{meatus} - \infty}{\text{mastoid} - \infty}$$

Relation of Air to Bone-Conduction—Rinné's Experiment.—If the conducting-apparatus is normal in any individual, a tuning-fork placed on the mastoid and allowed to die away till no longer heard is again

heard if held opposite the meatus. If the conducting apparatus is affected to any considerable extent, the tuning-fork when allowed to die away on the mastoid is no longer heard when held opposite the meatus. In the former case Rinné's test is said to be positive (Rinné +), indicating, as a rule, absence of middle ear disease; in the latter, negative (Rinné −), indicating some degree, at least, of disease of the conducting apparatus. It is to be noted: (1,) That it is only with *a low pitched fork*—middle C, or preferably one still lower—that a "positive" result excludes disease of the conducting apparatus; (2,) That in *old persons* bone-conduction is shortened more than air-conduction, and, therefore, a "positive Rinné" is quite compatible with the presence of tympanic disease.

Graduated Rinné's Test.—It is often advisable to apply Rinné's test by means of a series of tuning-forks, one an octave below the middle C, one the middle C, and three others one, two, and three octaves higher (C 256, C^{1}512, C^{2}1024, C^{3}2048, C^{4}4096, C^{5}8192 double vibrations per second). In the slighter cases of disease of the conducting organs, the test is negative for the lower forks only, but in the more advanced ones for the highest as well, calling for a more unfavourable prognosis, especially if the test has given this result after inflation of the tympanum, by one of the methods to be subsequently described. If Rinné be positive throughout, the conducting apparatus is relatively healthy, and any considerable degree of deafness must be due to other causes, presumably nervous.

Weber's Test.—If a vibrating tuning-fork placed on the vertex is heard better in the worse ear, the affection of that ear is not of the nerve but of the conducting apparatus, and Weber's test is said to be positive. If it is better heard in the better ear Weber's test is negative.

Galton's Whistle is a minute metal instrument giving a very high-

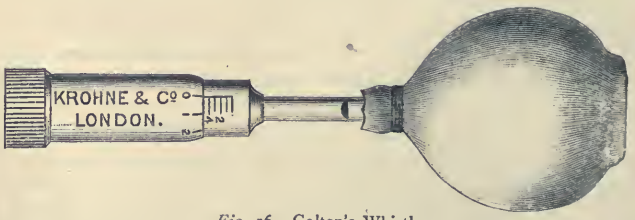


Fig. 16.—Galton's Whistle.

pitched note, which can be raised or lowered by means of a screw piston. The degree to which the piston is screwed in can be read off by means of the graduated marks on the instrument, indicating in millimètres and tenths of millimètres the length of sounding tube. By

its means the highest note which is heard by the patient (upward limit of audition) can be registered. In using it, it is well to hold it about 18 inches from the patient's ear and to press the ball very softly, especially for the highest notes, desiring the patient to say when he ceases or commences to hear a whistle or chirp, and not the mere noise of the rushing of air. For example :—

Galton R. 4·3 L. 3·9

With advancing years the capacity for hearing high-pitched sounds diminishes and the highest limit of audition descends, requiring a greater length of tube in Galton's whistle. The loss of audition for the upper tones is characteristic of nerve-deafness, and in all suspected cases Galton's whistle should be employed.

"*Hearing better in a Noise*"—*Paracousis Willissii*.—When investigating the hearing-power of a patient, especially with bilateral defect of hearing, enquiry should always be made as to whether hearing is better in the midst of a noise, as, for instance, whether conversation is better heard in a train or omnibus or in the midst of a rumble or clatter. This is present in a large number of cases, and these are almost without exception cases of middle-ear disease (Roosa). Patients with nerve-deafness, especially when this is caused by exposure to noises, —"boiler-makers' deafness"—usually hear worse in a noise. Hence the symptom is of some diagnostic importance.

Functional Symptoms Differentiating Obstructive from Nerve-Deafness.—From our examination so far we may suspect *Nerve-Deafness* if :—

(1,) There is diminution of bone conduction ;
(2,) There is loss of hearing for very high-pitched tones ;
(3,) There is decrease of hearing power in the midst of noise.
(4,) Hearing for conversation is relatively better than for the watch.

Obstructive-Deafness if :—

(1,) There is loss of air-conduction only, with negative Rinné ;
(2,) There is better hearing for very high than for very low tones ;
(3,) There is increased hearing in the midst of a noise.
(4,) Hearing for conversation is relatively worse than for the watch.

(*b*,) PAIN, or earache, of local origin is the most prominent symptom in acute inflammatory affections, whether of the external or middle ear, as also in the exacerbations common in chronic inflammation, as when re-infection of quiescent foci takes place and purulent discharges are pent up. Acute inflammation of the meatus or middle ear is characterized by extreme pain, accompanied by impairment of the hearing function and febrile disturbance. The pain usually radiates up the side of the head. There often occurs, however, a *reflex otalgia* due

to disease of the teeth, and, less frequently, to disease of the throat or tongue, but is then not likely to be mistaken for aural disease. There is then an absence of the other cardinal symptoms. If the pain is worst in the mastoid region disease of that part must be suspected.

(*c*) If there is DISCHARGE, its nature, quantity, and particularly its smell should be noted. The most usual discharge is one containing pus. If it is considerable in quantity, or contains mucus, it comes from the middle-ear. The inter-mixture with blood usually indicates the presence of granulations, but if a copious hæmorrhage occurs late in a case of chronic suppurative otitis erosion of a blood-vessel is to be suspected. A sticky oozing is often present in eczema of the meatus, a serous and subsequently purulent discharge of slight abundance in external otitis. *If there is no discharge* it is necessary to enquire whether there has been *a discharge at a former period*, indicating a former suppurative otitis which may have left a permanent perforation of the membrane, or a cicatrix at the site of a healed perforation, or adhesions hampering the movements of the intra-tympanic structures. The smell of the discharge is of comparatively little diagnostic value at the moment, but if there is fœtor it should be noted, because if under simple antiseptic treatment the offensive smell speedily disappears the prognosis is much more favourable than if it persists (Dench). Such persistence is probably due to disease of bone or retention of putrefactive material in the antrum or mastoid cells. The duration of the discharge and its mode of onset are of great significance. A recent sudden discharge, preceded by severe pain, indicates an acute inflammation of the middle ear, but the occurrence of a discharge without previous pain should lead to investigation as to the presence of a tuberculous disposition. A suppuration may be of long-standing owing to neglect, to the presence of granulations, polypi, disease of the ossicles or temporal bone (simple, tubercular or syphilitic), involvement of the mastoid antrum or cells (epidermic accumulations, etc.), naso-pharyngeal disease or constitutional dyscrasia. The possible sequelæ of chronic, rarely acute, suppurative disease—meningitis, cerebral or cerebellar abscess, phlebitis of the lateral sinus and pyæmia—must not be overlooked. (*Vide p.* 221.)

(*d*) TINNITUS AURIUM, or "Noises in the Head," is the next symptom to enquire about. It is less commonly complained of by children than by adults, and its *varieties* are as numerous as patients' powers of description can make them. They may be complained of as humming, hissing, sound of escaping gas, rushing water, "sea shell," or sea waves, explosions, hammering, music, undistinguishable

voices and distinguishable voices. They may be practically classified as follows :—

A.—Pulsating	Arterial congestion in region of the labyrinth or middle ear.	Relieved by compression of the carotid or vertebral arteries.
B.—Continuous—		
(*a*,)—Simple—		
Hissing, singing, high-pitched sounds, sea-shell, etc.	Increased tension in the middle ear, irritating auditory nerve.	Relieved by inflation of tympanum (*vide p.* 217.)
Deep humming.	Anæmia.	Relieved by lying down, or by alcohol, or food.
	Aneurism.	Audible on auscultation. Relieved by pressure on arteries.
Rushing.	Venous congestion.	Worse on lying down. Relieved by purgation.
(*b*,)—Elaborated—		
Bells, music, voices, etc.	Mental phenomena, sometimes induced by influence of aural disease on an excitable brain.	

Tinnitus is more often Pulsating than patients admit. This may be tested by directing the patient to listen to the sound while one feels the pulse and beats time to it with the other hand. Many patients will then find that the tinnitus keeps time with the pulse, and *the effect of compressing carotid and vertebral arteries* should next be tested. If pressure on the common carotid in the neck checks or diminishes the pulsation, the congestion is in the middle or external ear. If pressure on the vertebral arteries does so, it is in the internal ear supplied by the internal auditory artery, a branch of the basilar, which is formed by the junction of the two vertebrals.

Fig. 17.—The spots where the Vertebrals can be compressed, marked X.

Compression of the Vertebrals is exercised by means of the thumb and middle finger of the right hand in the hollows behind and slightly below the mastoids, while counter pressure is made with the palm of the left hand on the patient's forehead. The arteries are thus compressed in the suboccipital triangles as they pass round the lateral masses of the atlas. (*Vide Figs.* 17 and 18, and *Plate V, Fig. A.*)

Fig 18.—Compressing the Vertebrals.

The characters of the other sounds are practically explained in the table. It is important to remember that there are a number—if only a relatively small one — of cases of *tinnitus, independent of aural diseases*, which have to be excluded by means of tests for hearing, objective examination, history of the case, etc. The *stage in the disease at which tinnitus commences* is important, especially in cases of middle ear catarrh, as the early occurrence of this symptom is characteristic of the intractable sclerotic variety.

(*e*,) VERTIGO arises from many causes besides ear-disease. The *direction* of the tendency to fall should be noted. As a rule it is away from the affected ear. *Acuteness or suddenness of its first occurrence* should lead to enquiries as to the presence of "Menière's symptoms"—sudden vertigo of almost apoplectiform severity with disturbance of hearing, tinnitus aurium, and usually vomiting. These, when associated with loss of bone-conduction and unpreceded by dulness of hearing, or other signs of ear-disease, justify a diagnosis of "Menière's disease.' More often they are secondary to middle ear disease, and are due to sudden increase of pressure on the labyrinthine contents, as by a congested granulation pressing on the stapes. Similar effects may follow the touch of a probe or the injection of fluids, especially cold water.

Other forms of Vertigo must be excluded. Thus :—

Ocular Vertigo relieved by closure of the eyes.
Gastric „ due to obvious digestive disturbance.
Renal „ an early symptom of cirrhotic kidney.

Laryngeal Vertigo induced by a coughing effort.

Tabetic unsteadiness / Cerebellar titubation } with sufficiently distinctive symptoms.

Anæmia / Congestion } of the brain.

Epilepsy, Migraine, etc.

(*f*,) VISIBLE ALTERATIONS will be considered in our next section.

II.—PHYSICAL EXAMINATION OF THE EAR.

Inspection of the Ear is most conveniently accomplished under the light reflected from a concave mirror attached to the observer's head by a spectacle frame or head band, and having an aperture in its centre opposite the observer's right eye, the source of light being either sunlight or an artificial light placed on his right hand side (*Fig.* 19).

Fig. 19.—Illustrating mode of examining.

THE AURICLE may present congenital *malformations* in the way of *deformities, fistulæ, imperfect development, etc.* In case of imperfect formation, hemiatrophy of the face and lower jaw should be looked for as indicating defective development of the structures originating in or about the cartilage of Meckel. Peculiarity in shape will often be noticed.

Acquired abnormalities may show themselves by changes in :— *Colour.*—Skin diseases of various kinds. *Size.—Hæmatoma* (*Figs.* 20, 21), a general swelling of the auricle without inflammatory disturbance, often traumatic. *Perichrondritis*, an inflammatory swelling

Fig. 20. Hæmatoma Auris.

Fig. 21. (Two Views.)

preceded by acute inflammation in the external meatus. *New growths*, sebaceous tumours, warts, sarcoma, etc. *Surface.—Ulcerations* as from lupus, syphilis, epithelioma, Raynaud's disease, noma, etc. *Position.*—Projection outwards, or outwards and downwards from the side of the head as in periauricular subperiosteal abscess.

THE EXTERNAL MEATUS has to be inspected without a speculum before any attempt is made to introduce such an instrument, because if the meatus is the seat of an obstruction, and especially of a furuncle, the introduction of an instrument causes an amount of pain which is quite unjustifiable.

To examine the Meatus without Speculum the auricle must be drawn upwards and backwards with the thumb and finger of one hand, while the tragus is held forwards with the other by means of the thumb, a probe, or a blunt hook.

To examine the Meatus with a Speculum the auricle should be drawn upwards and backwards with the middle and ring finger of the left hand, while the speculum is insinuated with the right hand and held in position with the thumb and index finger of the left. Two points to

Fig. A.

Fig. B.

Fig. C.

Fig. D.

Fig. F.

Fig. E.

Fig. G.

be borne in mind are, the *convexity of the floor*, and the forward and inward direction of the meatus causing *conspicuousness of the posterior wall* (*Plate V, Fig. F*). The former is especially important in connection with the employment of instruments, as a thin film of cerumen on the floor may look like a solid ball, or a superficial redness of the skin may simulate an abscess, and incautious instrumental procedure might have most unfortunate results.

The meatus may be the seat of *complete obstruction*, as from congenital malformation, inflammatory swelling and formation of a diaphragm; from increased formation and retention of cerumen or epidermic scales; from polypi (*Plate V, Fig. B*), granulations, or bony outgrowths, or from the presence of foreign bodies. It may be filled with pus or blood.

Partial obstruction may be of the nature of *general narrowing or stenosis* from skin-disease or general inflammation, or from bony outgrowth (hyperostosis), or of *circumscribed narrowing* from furuncle or the protrusion of a mastoid abscess (N.B., the anterior boundary of the mastoid cells and antrum forms the posterior wall of the meatus), periostitis, flakes of cerumen, granulations, small polypi, exostoses (*Plate V, Figs. C, D, E, G*), etc. The outer part may be *collapsed* from senile changes in the lower jaw, the aperture taking a slitlike form.

Fig. 22.

The nature and site of growth of some of these obstructions can only be made out by careful use of the *probe* (*Fig.* 22), and a fine silver instrument, so curved that the hand holding it like a pencil may not obscure the view, is desirable. In its use, it is important to remember that the *length of the meatus*, from the posterior margin of the external orifice to the membrane, averages 24 mm., nearly 1 inch. By its means the presence of caries, necrosis, fistulæ, and tender spots may be detected.

Removable bodies may have to be expelled by means of the *syringe*, directed along the roof of the meatus, straightened as already described, or of a fine *hoe* (*Fig.* 23), or of delicate *forceps*.

Fig. 23.

The Membrana Tympani should, under normal circumstances, be now visible, and answer to the following description: The normal membrane is somewhat oval, measuring 9 mm. ($\frac{9}{25}$ inch) in its

longest diameter, of pearly-grey tint, set in a bony frame discernible all round except at the upper part where there is a notch—the notch of Rivinus. The anatomical features of present clinical interest are indicated in the accompanying diagram (*Fig.* 24), and the actual appearance in the coloured figure (*Plate VI, Fig. H*). It will be seen that the

Membrane of Shrapnell in the Notch of Rivinus.

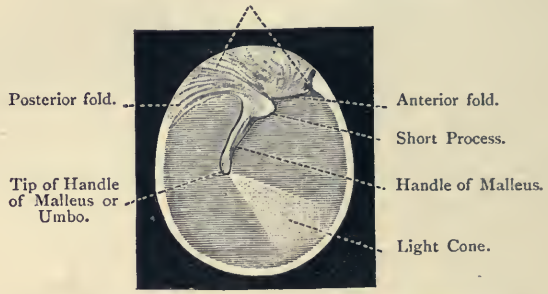


Fig. 24.—Semi-diagrammatic view of the Tympanic Membrane.

handle of the malleus runs downwards and backwards to the centre of the membrane, and that at its upper part is a very conspicuous projection, the *short process*—a most important landmark. Forwards and backwards from a little above the process run the anterior and posterior folds which separate the small upper flaccid portion of the membrane—membrane of Shrapnell or *membrana flaccida*—from the main portion of the membrane—*membrana tensa.* From the tip of the malleus runs downwards and forwards a triangular shiny spot—the *light cone.* It will be remembered that the membrane is placed obliquely across the meatus, so that if it were perfectly flat it would reflect all light thrown upon it on to the anterior wall and floor of the meatus, and none directly back to the observer's eye. It is not perfectly flat, but drawn inwards at the umbo by the tensor tympani, so that a triangular portion at the lower and anterior part is at right angles to the line of sight, and therefore reflects the light directly back. This part therefore appears distinctly luminous, and constitutes the light-cone. It is an important rule that *any point which appears brightly illuminated is at right angles to the line of sight.*

The Membrane in Disease may vary as follows :—

Colour.—It may present *general dull redness* in extreme congestion, especially when combined with inflammation of the external ear, or it may be *congested round its margins and along the handle* of the malleus, as in the lesser forms of external or middle ear

catarrh, or it may present a *bright coppery lustre* when a congested condition of the tympanic mucosa is seen through a still transparent membrane—the earliest appearance in acute catarrh of the middle ear. It may be *raw and granular* after the removal of a desquamating layer of epidermis. A limited area of *redness in postero-superior quadrant* is not infrequent in disease focussed in the neighbourhood of the junction of the tympanum and mastoid antrum. Circumscribed *yellow or white patches* of degeneration (fibrous or calcareous) usually indicate previous inflammation of the membrane. A single or double *black line* crossing the membrane horizontally is often visible when the tympanum is partially filled with fluid. *Lustre.*—A general *dulness* with loss of light-cone may result from superficial inflammation of the outer layer—cloudy swelling of the superficial epithelium. *Indistinctness of Features* results from further thickening of the outer layer burying the visible portions of the malleus, which lies in the middle layer of the membrane beneath the outer one. *Surface.*—The surface may be irregular from the projection of granulations, polypi, vesicles, interstitial abscesses, pouches, herniæ of the mucous layer through the middle and outer ones. It may be wrinkled owing to abnormal thinness either from atrophy or from the presence of large loose cicatrices like gold beaters skin (*vide* "Suction-Speculum"). *Indrawing or Retraction* may be general or circumscribed. *General retraction* is usually the result of non-ventilation of the tympanum and absorption of the contained air. This is generally caused by obstruction of the Eustachian tube from catarrhal or other changes. The appearance of the retracted membrane is very characteristic. The yielding parts are depressed, and the unyielding parts are thrown into abnormal relief, while other parts are fore-shortened.

The main part of the membrane is much depressed, as is seen most distinctly in the portion in front of the malleus where the shadow is very deep. The anterior edge of the manubrium shows up with abnormal sharpness, the short process sticks out like a miniature hat peg, and the manubrium itself appears shorter and more horizontal than in the normal condition. The anterior and posterior folds are unduly prominent, and in the postero-superior quadrant the membrane is often so closely opposed to the incus and stapes, that the descending limb of the former and the posterior crus and muscle of the latter are quite easily distinguishable. The light-cone is more diffuse and less distinct towards the periphery of the membrane than

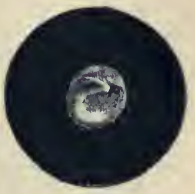


Fig. 25.
Retracted Membrane.

usual. *Circumscribed Retraction* is the result of the indrawing of *thin cicatrices* after the healing of perforations extending over small or large areas of the membrane, but usually having definite margins, or of *atrophic* areas with ill-defined margins resulting from dry chronic inflammation. The former may be loose or fixed, and are apt to be mistaken for existent perforations (*vide* "Suction-Speculum" and "Inflation of Tympanum"). This often occurs in the postero-superior quadrant just below the posterior fold. *Bulging* without material alteration in colour can generally be recognized after careful study of the lights and shadows, but without this the distinction from retraction under uniocular inspection is not always easy. In case of distension with pus, the bulging parts behind and in front of the manubrium leave that bone in the bottom of a groove, and present a yellowish tint at their most prominent parts (*Plate VI, Fig. 1*).

Perforations may vary in size from a pinhole to absence of almost the whole membrane.

Fig. 25.
Small Perforation.

Fig. 27.
Large Reniform Perforation.

Fig. 28.
Absence of almost the whole Membrane.

The above are typical appearances of *perforations in the membrana tensa*. The character of the margin must be noted whether red and raw (*Plate VI, Fig. K*), as in recent active perforations with possibility of healing and closing, or *white* and cicatricial as in permanent ones, or "terraced" inwards, a rarely observable indication of a perforation commencing externally. The perforations must be distinguished from the margins of sunken cicatrices—the mouths of cicatricial pockets—by the suction-speculum and inflator (which see). The objects on the inner wall of the tympanum may be exposed, such as the promontory with its ramifying vessels, the descending process of the incus and the stapes, and occasionally the niche in which lies the fenestra rotunda (*Plate VI, Figs. L, M*). Often the mucous membrane of the inner wall is swollen, and projects outwards so much as to simulate a polypus, or a granulating membrana tympani, from which it has to be distinguished by means of the probe. The presence of white

Fig. II.

Fig. I.

Fig. K.

Fig. L.

Fig. M.

Fig. N.

Fig. O.

Fig. P.

shreds protruding from the upper part of the perforation, and repeatedly again reforming after removal, indicates a desquamating process in the upper part of the tympanum, and the probable development of "cholesteatoma" in some of the accessory spaces. *Perforations in Shrapnell's Membrane* are not infrequent, but are apt to be overlooked, and are often covered up by a crust of inspissated secretion. Through them may often be seen masses of desquamated epithelium, and sometimes a portion of the head and neck of the malleus, which may be carious. They often coexist with a permanent perforation of the membrana tensa (*Plate VI, Figs. N, O, P*).

The *Suction-Speculum* (*Siégel's Speculum*) consists of an aural speculum widened out at its large end and fitted with a plane, or magnifying glass. An indiarubber tube is attached to its side, and when the instrument is introduced tightly into the meatus the air can be sucked out through the tube by means of the mouth or a thick air-ball. The latter is preferable, but it must be of considerable strength (*Fig.* 29). By its means the *mobility of the malleus* and the degree of

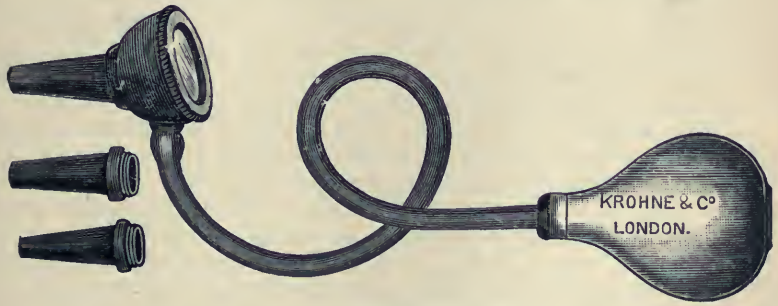


Fig. 29.—Siégel's Speculum.

relaxation of the membrane can be distinguished. The mouths of sunken *cicatricial pouches* can be diagnosed from *open perforations* (*Plate VI, Figs. L, M, O, P*), and *adhesions* of the membrane or of sunken cicatrices or other parts to the inner wall of the tympanum can be made out. Collections of *pus in accessory cavities* may often be detected and emptied by means of this instrument. Its *special diagnostic* use is in the detection of impaired mobility of the ossicles, and of relaxation of the membrane.

THE PERIOTIC REGION must be examined. The *supra-auricular* segment is often the seat of sub-periosteal abscesses, both in the adult and in the child. In the child, pus may find its way out through the

still patent squamoso-mastoid suture, and burrow upwards. (It is interesting to note Gaubei's rule that counter-openings in case of abscesses at or above the level of the upper-third of the auricle should be made in the roof of the meatus.)

The *præ-auricular* or *parotid* region may be the seat of lymphatic adenitis, or of pus-burrowing.

The *infra-auricular* region is habitually the seat of swelling and tenderness from *lymphatic inflammation* in acute inflammatory affections of the external ear. In disease of the internal jugular vein (from phlebitis of the lateral sinus), a swelling may be found running from this region down the side of the neck. Burrowing of pus from an abscess in the mastoid process having found vent on the inner aspect may also cause a swelling in the lateral cervical region—one form of "cervical cellulitis" comparable to a form of "retro-pharyngeal abscess" arising from the same cause. Pressure on such a swelling after opening of the mastoid would cause pus to well-up.

The *post auricular* or the *mastoid* region must in all cases, especially those characterized by pain or suppuration, be examined with care. It may be red, swollen, tender, painful, or the seat of sinuses or cicatrices. It must be noted whether the *swelling* is *circumscribed* and mobile, as in case of an inflamed gland, diffused or *shelving*, as in sub-periosteal abscess, etc. The *point of greatest tenderness*, as *on* or *behind* the process, is important, as it will be remembered that in disease of the lateral sinus there may be tenderness behind and particularly at the seat of the mastoid foramen. *Intense pain*, deeply seated in the mastoid region possibly without superficial evidences of inflammation, is present in cases of abscess in the antrum or mastoid cells. Its clinical significance depends upon its association with acute or else long-standing otitis, and with severe constitutional disturbances, but it is often only after opening the mastoid process that the exact nature and limits of the inflammation can be defined, as only then a *non-suppurative ostitis* may be revealed and cured, or else further evidence of a *subdural abscess* of *other intra-cranial* disease may be forthcoming and call for more extensive operative interference. *Fistulæ and sinuses* require special attention. Those of *congenital* origin are generally in the præ-auricular region, and associated with other malformations. *Acquired* ones are mostly in the post auricular area, and may lead to the remains of a superficial (glandular) abscess, to the periosteum, to the bone below the periosteum, or to the interior of the petrous bone. They may run forwards simply to the meatus, but they sometimes lead into the groove for the lateral sinus or cranial cavity. Pouting granulations at the orifice of a fistula sometimes arise

from the dura mater. (The probing and syringing of fistulæ, especially if at an unusual distance behind the auricle, should not be practised without the greatest caution.)

THE VENTILATING APPARATUS, namely, *The Eustachian Tubes and their Approaches*, should now be examined.

THE NOSE, PHARYNX, AND NASO-PHARYNX call for an investigation, as described fully in previous issues of the "Annual," and notably by Dr. Greville MacDonald in his paper on "Posterior Rhinoscopy" in 1892. The following *special points* may be here noted: (1,) In the examination of the fauces the *activity of the palatal muscles* (which are also tubal muscles) during phonation; (2,) The appearance of the naso-pharynx and Eustachian tubes by *posterior rhinoscopy*, a proceeding which we find most readily carried out early in the interview and before much manipulation has been practised; (3,) The *patency of each nostril* for respiration, ventilation, and Eustachian catheterisation.

THE EUSTACHIAN TUBE may be tested as regards its patency by means of inflation by Valsalva's method, Politzer's method (or one of its modifications), or the Eustachian catheter, while the examiner listens with an indiarubber diagnostic tube the ivory extremities of which are inserted into his own and the patient's ear.

Valsalva's Method.—The patient pinches both nostrils firmly and makes an expiration as if to blow the nose, but without letting the air issue from the nostrils. The air is thus driven up the Eustachian tube, and if it is heard to enter the tympanum—normally a sound like "pick" is heard—it may be assumed that the tubes are freely open. During this process it is advisable for the patient to open his mouth widely.

Politzer's Method.—The patient holds a little water in his mouth, and the observer places the tip of a "Politzer Bag"—a six-ounce indiarubber enema bottle with a tip conveniently adapted for fitting the nostril. The patient swallows at the word of command, and the surgeon then compresses the bag firmly while closing the other nostril. During deglutition the palate is raised, the Eustachian tube is opened, and the air has no outlet from the nose except through that tube. Loewenberg advises that the compression should be practised at the moment when the larynx rises in swallowing.

The Writer's Modification of Politzer's Method consists in making the patient blow vigorously with distended cheeks through a very narrow-bored tube while inflation is practised. This, if not so widely applicable as Politzer's, is well worthy of preliminary trial in every case, as being in many respects easier and more pleasant.

The *Eustachian catheter* in its most practical form is a metal or

vulcanite tube, about five inches in length, presenting the following well-known appearance. Its last inch is gently curved till the point is directed at an angle of about 45 degrees to the shank. The point must be well rounded and free from all sharp edges. The outer end is funnel-shaped so as to receive the top of a small india-rubber bottle, and it has on it a ring pointing in the same direction as the tip of the catheter. In use it is passed along the floor of the nose into the naso-pharynx, and the point is turned outwards and upwards in the direction of the external meatus, the orifice of which is nearly on a level with that of the Eustachian tube. When the point is just inside the orifice of the tube air is blown in by means of an indiarubber bottle, and its entrance into the tympanum is listened for by means of a diagnostic tube as before.

Several *important points* are to be kept in mind :—

(1,) A *nasal speculum* should invariably be used, and the catheter should be introduced through this under good illumination. In nervous subjects or in case of rhinitis, cocaine should be previously applied inside the nose. The tip of the nose should be lifted up, and the head should be steadily held in such a position that the *inferior meatus is horizontal.*

(2,) Using *the palate as a landmark*, the catheter should be passed into the pharynx with the point downwards. The patient is then ordered to breathe through the nose so that the soft palate may droop. The posterior margin of the hard palate is then very distinct, and the hook of the catheter is drawn forward so as to hug it. The beak has now only to be turned outwards and upwards, and in most cases may be introduced into the mouth of the Eustachian tube, especially if the patient perform at the same time the movement of swallowing.

(3,) Using *the posterior lip of the Eustachian Tube as a landmark*, the catheter is pushed right back to the posterior wall of the pharynx, its beak is then turned outwards and slightly upwards into Rosenmuller's fossa, the hollow behind the Eustachian tube. It is then pulled forwards till it is felt to pass over the more or less pronounced posterior lip of the tube. If a vulcanite instrument is used there is sufficient "give" to make the proceeding practically painless, but with a metal catheter it is advisable to turn the beak slightly downwards as soon as the lip is felt, so as to "round" the swelling rather than drag the point of the instrument over it.

(4,) Using *the septum as a landmark*, the beak of the catheter in the pharynx is turned inwards and hooked on to the back of the septum, being pulled forward so as to press it. The instrument is held at this

depth and then rotated so that the tip traverses nearly half a circle in the naso-pharynx, and comes to point outwards towards the auditory meatus.

(5,) *When one nostril is very much obstructed* the other is usually sufficiently patent to permit of the passage of a catheter with a very long beak bent so as to point at right angles to the shank of the catheter. It is surprising how easy it is to direct this towards the tube of the obstructed side and to inflate the tympanum through it.

(6,) In *cases of cleft palate* it is easier to pass the catheter through the mouth. Mr. Cresswell Baber has recommended the use of specially bent Eustachian catheters by this passage, even in cases of normal palate.

THE POINTS TO BE NOTED IN CONNECTION WITH INFLATION are: (1,) The degree of patency of the Eustachian tube; and (2,) The effect of inflation on the hearing power and symptoms.

(1,) *The patency of the Eustachian tube* is judged of by the readiness with which the air is observed to enter the tympanum. This presupposes some familiarity with the sounds produced by the process *in the normal ear*, when the air enters the tympanum at once with a full stream and forces out the membrane with an easily audible "pick." Patency is then normal, or $\pm$. When the *tube is narrowed* the air passes with difficulty, there is a murmur of abnormally high-pitch, and it is only after a little time that it is heard to enter the tympanum. Patency is then diminished, or —. When the *tube is impervious* "patency" is absent, or $-\infty$.

(2,) *The effect on the symptoms*, especially *hearing*, *tinnitus*, or *pain*. *Improvement* in general may be noted as present, absent or conspicuous by its opposite, deterioration taking place. Thus:— "improvement" +, $\pm$, or—. It is, however, better to note the effect on the chief symptom. Thus the hearing distance for the watch after inflation may be compared with what it was before, the new distance being noted after the observation on patency. Similarly tinnitus, or pain may be diminished — or increased +, or unchanged $\pm$, or entirely removed $-\infty$ (verbal contractions may be used instead of signs, as dim$^{d.}$, inc$^{rd.}$, unch$^{d.}$, rem$^{d.}$).

These results may be conveniently noted in such a form as the following:—

	R.		L.	
	Patency.		Patency.	
Valsalva				
Politzer				
Catheter				

The large blank space to the right on each side is for entering "improvement," "hearing distance," "tinnitus," "pain," or other symptom on which the effect of inflation is to be noted. The following are examples :—

	R.		L.	
	Patency.	*Improvement.*	Patency.	*Improvement.*
Valsalva	—	+	—∞	
Politzer	—	+	—∞	
Catheter	—	+	—	+
	Patency.	*H.D. Tinn.*	Patency.	*H.D. Pain.*
Valsalva	—∞			
Politzer	—	$\frac{15}{60}$ *remd.*	—	$\frac{4}{60}$ *incd.*
Catheter	—			

THE DIAGNOSTIC VALUE OF INFLATION lies in the comparison of the patency and the effect produced ; thus :—

Patency much diminished and improvement on inflation very considerable, would indicate a narrowing (catarrhal) of the Eustachian tube without significant tympanic disease.

Patency much diminished and improvement on inflation very moderate would indicate simultaneous affection of the tube and tympanum in the more favourable exudative form of chronic catarrh of the middle ear.

Patency normal and improvement on inflation little or none would indicate a primary affection of the tympanum, as in the obstinate dry or sclerotic form of chronic catarrh.

Patency normal and hearing made worse by inflation are found in cases of healthy middle ear, as in pure nerve-deafness.

Immense improvement on inflation followed by speedy or almost immediate return to the previous degree of dulness of hearing is characteristic of relaxation of the membrane.

In cases of perforation of the membrane, a distinct hissing or whistling sound is usually heard on auscultation during inflation—the "perforation sound."

The appearance of the membrane is often altered after inflation, an indrawn membrane being forced into its normal position and a relaxed one bulged out to an abnormal degree. Similarly depressed cicatrices may be driven out more or less completely according as they are free or bound down by adhesions, very much as when the exhausting speculum is employed. *(Vide Plate VI, Figs. L, M, O, P).*

GELLÉ'S TEST—*Centripetal Pressure*—consists in compressing the air in the meatus by means of a firmly fitting "Politzer-bag," while a vibrating tuning fork is placed on the vertex. In the normal subject,

the sound dies away during the compression and returns on its removal. This is believed to indicate that the stapes moves freely in its fenestra, and Gellé's test is "positive" +, otherwise it is "negative" — .

Binaural Synergy.—This test, also introduced by Gellé, is practised by holding a vibrating tuning fork opposite the other ear, while compression is exercised as above in the ear under examination. In the normal subject the sound of the tuning fork becomes faint and inaudible during the compression, but returns on its removal (always assuming that the vibration of the tuning fork has not diminished below normal audibility). This is ascribed to a synergic contraction of the opposite tensor tympani reflected through an "oto-spinal" centre in the medulla. The results may be readily noted as "positive," or "negative," but the interpretation is much hampered by the obvious sources of confusion arising from possible disease of the middle ear causing immobility of parts, or of the labyrinth of one or other side. In doubtful cases the test should not be omitted.

III.—General Condition and Special Extra-Aural Symptoms.

The General Condition of the patient requires careful investigation, the direction of enquiry depending on the particular "aural" symptom chiefly complained of. What the direction in each case should be has been suggested under each heading, but the following indications may be found of some value :—

We may have to deal with the Dangerous Sequelæ of Acute or Chronic Suppuration.

In acute suppurative otitis we have to be on the look-out for symptoms of mastoid disease, meningitis and septicæmia. Intense headache, vomiting, photophobia, high temperature, constipation, delirium, retraction of the neck, are not likely to be overlooked, as indicating meningitis, but the earlier symptoms may be produced by inflammation confined to the tympanum. (In this case incision of the membrane affords an amount of relief which it could not do in meningitis.) The occurrence of oscillations of temperature with rigor, and perhaps diarrhœa, would point to septic absorption, and later metastatic suppuration.

Chronic suppurative otitis is a much more frequent cause of danger from cholesteatoma, erosion, and perforation of bone, leading by more or less direct infective extension of disease to subdural abscess, meningitis, phlebitis and thrombosis of the lateral sinus, pyæmia, and cerebral or cerebellar abscess. *Chlolesteatoma* may be suspected if an otorrhœa of old standing is obstinate under treatment,

and there is in the syringing water a quantity of white shiny membrane more than the appearance of the meatus would account for, or occurrence of headache and mastoid pain from time to time. *Erosion of bone* may occasionally be felt with the probe, but the more usual situations are in the tegmen tympani and antrum beyond the reach of justifiable probing. It can hardly be totally absent in any long standing case of middle ear suppuration, and especially in tuberculous subjects.

The following are the chief symptoms to be sought for. :—

Headache may be dull and localized in encephalic abscess, but in meningitis it is intense and general. *Temperature*, if oscillating, indicates sinus-phlebitis or pyæmia; if normal or subnormal, encephalic abscess. In the other conditions it is persistently high. *Pulse and respiration* are apt to be slow and regular in abscess, but rapid in all the other complications, their irregularity being notable in meningitis. *Rigors* may occur at the commencement of any, but well marked initial rigors are characteristic of sinus-phlebitis, and, when repeated, of pyæmia. *Vomiting* occurs early in meningitis, sinus-phlebitis, or pyæmia; later in cerebral or cerebellar abscess. *The Bowels* are obstinately confined in meningitis, and generally in encephalic abscess, but in the other conditions diarrhœa is not uncommon as the result of septic absorption. *The cerebral condition* may be one of early and violent delirium, as in meningitis; or there may be extreme sluggishness culminating in coma, as in encephalic abscess. *Paralysis* of particular sets of muscles, or of sight, or hearing, may be present in disease of the corresponding cortical centres, thereby rendering accurate localization of the lesion more practicable. *The Ophthalmoscope* is of frequent service. Unfortunately in cerebral abscess its evidence, whether positive or negative, is of little diagnostic value, but along with other symptoms the presence of optic neuritis confirms the diagnosis of a serious degree of mischief. Its occurrence in case of foreign body in the tympanic cavity would call for operative proceedings which without it might be unjustifiable. It is constant in phlebitis of the sinus, but it is sometimes present in uncomplicated middle ear suppuration.

In Non-Suppurative Middle-Ear disease tendency to catarrh, gout, rheumatism, anæmia, gastro-intestinal or renal disorders, should be observed.

In Nerve Deafness evidences of syphilis, gout, lead or other poison must be sought for, the state of the *nervous system*, and particularly of the *cranial nerves*, especially the fifth, sixth, and seventh, investigated. Associated facial paralysis would suggest implication

of the auditory nerve in its cranial course, unless there was suppuration indicating disease of the labyrinth of probably a tubercular nature. Paralysis of the sixth nerve would similarly suggest a basal meningitis, while if the fifth (sensory) were the nerve coincidentally affected, there would be suspicion of a lesion in the nucleus of the auditory nerve. Hemiplegia or hemi-anæsthesia on the same side, or the opposite side, would point to a lesion of the cerebral hemisphere and pons respectively. The peculiar form of deafness—"word-deafness"—in which the patient though able to hear sounds cannot appreciate them, as indicating ideas, or cannot understand words, is characteristic of disease of that portion of the auditory cortical centre situated in the left superior temporo-sphenoidal convolution. Ophthalmoscopic examination may possibly reveal an optic neuritis indicative of encephalic tumour. Disease of the auditory nerve or nuclei is an occasional accompaniment of locomotor ataxy. The possibilities of *hysteria* and of *simulation* must throughout be kept in view. (*Vide* Gowers' "Diseases of the Nervous System.")

The course of investigation described above is a somewhat modified and extended reproduction of that scheduled in the case papers employed at the Central London Throat and Ear Hospital. An endeavour has been made to indicate the diagnostic value of the various signs and symptoms, and it is hoped that this outline may assist those in particular who have not had the opportunity of studying diseases of the ear during the pupillary portion of their career.

Explanation of the Chromo-Lithographic Plates.

PLATE V.

Fig A.—Dissection exposing the vertebral arteries at the point where they may be compressed in the suboccipital triangle.

B.—A smooth polypus.

F.—The posterior wall and convex floor of the external meatus as seen through a faultily inserted speculum.

C.—Typical exostosis.

D.— ,,

E.— ,,

G.— ,, , with hyperostosis.

PLATE VI.

H.—The normal membrane.

I.—Bulging of the membrane from distension o f the tympanum with pus.

K.—A small acute perforation.

L.—A large perforation exposing the niche of the fenestra rotunda.

M.—The same after Politzer inflation or suction by means of Siegel's speculum, showing that there is a thin cicatricial membrane extending from the anterior margin of the perforation to the promontory.

N.—A perforation in Shrapnell's membrane through which the bare ossicle can be felt, causing obstinate otorrhœa.

O.—A similar case to *M* in which the fenestra rotunda is not seen. There is a perforation in Shrapnell's membrane.

P—The same after inflation or suction.

EAR (Intratympanic Operations). *William Milligan, M.D.*

Increased knowledge of the pathology of middle ear affections, and recent improvements in aural instruments, and in the means of illuminating the recesses of the middle ear, have given a decided impetus to the performance of various intratympanic operations. For long, the division of adhesions and of cicatricial bands uniting the ossicula to one another, or to surrounding structures, has, in suitably selected cases, been recognized as a valuable procedure. Of late years, considerable attention has been devoted to the question of excising the auditory ossicles in certain cases of chronic suppurative middle ear affections where ossicular bone disease has supervened, and where the necrotic process is therefore confined to small areas, and also in certain cases of sclerotic median otitis. In the former class, there is reasonable hope that, by removal of the necrotic bonelets, and the consequent opening up of the middle ear, thereby securing free drainage, arrest of suppuration may be effected, while, at the same time, the removal of functionless ossicula may secure a readier access for sound waves to the footplate of the stapes, and thus the patient's hearing power be improved.

In the latter, the operation is performed to remove ossicles which, having become ankylosed, hinder the transmission of sound waves, or to free the footplate of the stapes in those cases where it has become bound down to the margins of the foramen ovale, and so to establish a path along which sound may more readily reach the internal ear. In chronic suppurative cases, the indications for operation are :—

(1,) Chronic purulent disease of the recessus epitympanicus, with ossicular caries.

(2,) The presence of cholesteatomatous masses in the tympanic cavity.

The operation has been proved to be of special value in cases of "attic" suppuration, accompanied by perforation of Shrapnell's membrane. In such cases, secondary ossicular bone disease, and formation of granulation tissue masses are frequent. Perfect drainage is also an impossibility, because : (1,) The perforation is situated high up upon the surface of the membrane, and is frequently blocked by masses of granulation tissue, and ; (2,) The fibrous trabeculæ existing in the region prevent drainage into the tympanic cavity, which, in many cases, is quite shut off from the attic as the result of inflammatory action.

The operation also removes septic material from the middle ear, affords the means of efficient drainage, and enables treatment to be applied directly to the diseased tympanic mucous membrane. The

results are, on the whole, satisfactory, statistics showing that not only is suppuration, as a rule, arrested, and, consequently, an ever-present risk to life removed, but also that the patient's hearing power is frequently much increased.

The incus is the ossicle most frequently found diseased. Ludwig[1] found it affected in 84 per cent. of his cases. The stapes for long resists destruction. The writer[2], in fifteen cases operated upon, obtained the following results: Malleus healthy, incus carious in five cases; malleus carious, incus healthy in six cases; malleus carious, incus carious in four cases.

The question of anæsthesia is an important one. Some operators prefer to have a general anæsthetic administered, while others prefer local anæsthesia, partly because they are thereby enabled to secure the intelligent co-operation of the patient, and partly because they are enabled to operate with the patient in the upright position. For purposes of local anæsthesia, a few drops of a 4 or 5 per cent. solution of cocaine may be injected *per tubam*, or simply along the nasal passage of the affected side. In suppurative cases, where a perforation already exists, the injection may be made directly into the middle ear with a small intratympanic syringe. If necessary, a few whiffs of ether may be given should the patient be unable to stand the necessary manipulations. Whether cocaine be used for its anæsthetic properties or not, it will be found extremely useful on account of its hæmostatic qualities. For the purpose of illuminating the field of operation, a strong and steady light is essential. Sexton's forehead electric lamp, or the light from a limelight apparatus, reflected by means of a forehead mirror, will be found admirably adapted for the purpose. All instruments to be used should be carefully disinfected and placed on a tray by the operator's side. The external meatus should be cleansed by means of a solution of corrosive sublimate or carbolic acid. The special instruments required are, a straight probe-pointed bistoury, an angular knife for severing the incudo-stapedial ligaments (a right and left knife are required), an ordinary paracentesis knife, a large number of probes for cotton wool, a delicate pair of forceps, a fine snare, and an incus hook. These instruments should be mounted upon handles bent at the proper aural angle. The steps of the operation are as follows: An incision should be made with the probe-pointed bistoury behind the short process of the malleus, commencing from the perforation in Shrapnell's membrane, and should be carried round so as to detach the posterior superior quadrant of the membrana tympani. The incudo-stapedial articulation should now be searched for, and, if found, the ligaments uniting the two ossicles divided. The incus

should now be pulled downwards and outwards through the perforation. A curved tenotome should then be passed behind the short process of the malleus, and the tendon of the tensor tympani divided. The rest of the membrane should be detached by a circular incision, the ligaments of the malleus and any cicatricial bands divided, and the malleus removed by means of forceps or snare. In a considerable number of cases of chronic purulency the incus will be found destroyed. Where such is the case the probe-pointed knife should be carried round the periphery of the membrane, the ligaments and connections of the malleus divided, and the bonelet then grasped with a pair of forceps and removed. When, however, it is deemed necessary to remove the malleus alone, an angular knife should be passed upwards and backwards towards the malleo-incudal joint, and the ligamentous fibres divided as completely as is possible. The ossicle should then be grasped with forceps or with the loop of a delicate snare, pulled steadily downwards and outwards, and so removed.

No special regard is to be taken of the chorda tympani nerve. If injured, temporary loss of taste upon the affected side results, but is usually recovered from. All hæmorrhage should be mopped up as quickly as possible with cotton-armed probes. The parts should be well dried, and a small quantity of some antiseptic powder insufflated, and the external meatus lightly closed with iodoform or sublimate wool.

Usually but little inflammatory reaction or pain results. The patient should be kept quiet for a few days, light and non-stimulating diet being given. Vertigo may prove troublesome for a time, and facial paralysis has at times resulted from injury to the nerve during the course of the operation, but has usually been recovered from.

The marked benefit resulting from excision of diseased ossicula is seen in the histories of the following cases (*Plate VII, Figs. A—M*):—

M. W. (Fig. K).—Female, aged thirty-four, had suffered since childhood from purulent middle ear disease upon the left side. Recurrent attacks of pain were frequent, and the discharge was at times very fœtid. The hearing power measured $\frac{6}{20}$ of the normal. On examination, a large soft gelatinous polypus was found protruding through the upper part of the membrana tympani. The superior and posterior walls of the tympanic attic, and the posterior wall of the external meatus, were found carious. The head of the malleus was embedded in soft granulations. Operation was performed in the ordinary way. The process of repair went on uninterruptedly, complete arrest of suppuration, and cicatrization of the membrana tympani, taking place. Two and a half years after the operation, the following note was made: The new membrane remains entire, the hearing power is greatly improved, attacks of pain and vertigo have completely ceased.

PLATE VII.

W. E. (Figs. A and D).—Man, aged forty-two, had suffered from purulent disease of the right middle ear since childhood. The exact cause of the disease was unknown. For many years, he had been constantly troubled with recurring attacks of earache of a severe type, and with distressing tinnitus. His occupation being that of a traveller for a large firm, he is exposed to all sorts of weather, and is the subject of frequent "head colds." The right membrana tympani was found perforated, and a considerable mass of soft granulation tissue was seen protruding through the perforation. Examination with the probe revealed ossicular and parietal caries. For many months local treatment was adopted. The granulation tissue was removed, and the intra-tympanic syringe constantly used, but with hardly any appreciable effect upon the disease. Operation was performed, the malleus and incus being removed. Rapid recovery took place, a new membrane forming, and all suppuration being arrested.

M. S. (Fig. B).—Chronic suppurative otitis media, perforation of membrana flaccida Shrapnelli, caries of malleus. Excision of membrane and remaining portion of malleus. Arrest of suppuration. No regeneration of membrana tympani. Slight improvement in hearing.

C. W. (Figs. C. and D).—Chronic suppurative otitis media of left side; perforation of membrana flaccida Shrapnelli; caries of both malleus and incus. Local treatment persevered with for many months. Finally diseased ossicles removed under chloroform. Arrest of suppuration. Regeneration of membrane. Improvement in hearing.

H. S. (Fig. E).—Chronic suppurative otitis media of right side; perforation of membrana flaccida Shrapnelli. Destruction of head of malleus. Excision of membrane and remaining portion of malleus. Arrest of suppuration. Regeneration of membrane. Hearing power made slightly worse.

B. A. (Fig. F).—Chronic suppurative otitis media of left side; perforation of Shrapnell's membrane. Destruction of greater part of malleus. Membrane and portion of malleus removed. Incus not seen at any step of the operation. Arrest of suppuration. Regeneration of membrana tympani. No change in condition of hearing power.

H. F. (Fig. G).—Chronic suppurative otitis media of right side. Membrana tensa destroyed. Malleus atrophied, eroded and hanging in external meatus. Small granulation upon short process. Operation under chloroform. Excision of ossicle. Opening up of recessus epitympanicus. Arrest of suppuration. No regeneration of membrana tympani.

E. R. (Fig. H).—Chronic suppurative otitis media of right side. Small perforation of membrana flaccida Shrapnelli. Removal of membrane and malleus, and efficient drainage secured. Arrest of suppuration. Regeneration of membrane. Slight improvement in the hearing power.

N. B. (Fig. I).—Chronic suppurative middle ear disease. Absence of membrane, malleus and incus. Mass of granulation tissue embedding head of stapes, which is found to be loose. Removal with forceps. Arrest of suppuration. No change in the hearing power.

E. W. (Fig. L).—Chronic suppurative otitis media of left side; perforation of membrana flaccida Shrapnelli. Destruction of greater portion of malleus. Excision of membrane. Arrest of suppuration. Regeneration of membrane. Increase of hearing power.

G. P. (Fig. M).—Chronic suppurative otitis media; perforation of membrana flaccida Shrapnelli. Head of malleus eroded and carious. Removal of membrane and malleus. During manipulation caput mallei broken. Arrest of suppuration. No regeneration of membrane. No change in condition of hearing power.

Ludwig,[3] in forty-three cases operated upon, obtained the following results: Otorrhœa healed in twenty-two cases, not healed in five, still under treatment nine, unknown five, lost two.

Reinhard,[4] in thirty cases, obtained sixteen cures. In the cases which did not heal, extension to the neighbouring cavities of the mastoid process or antrum had probably taken place. Schmiegelow,[5] in twenty cases, obtained complete recovery in nine, improvement in eight, no result in two, and an unknown result in one. The hearing power was improved in ten, unaltered in six, and slightly diminished in three.

In the writer's[6] fifteen cases, the results were: Cured eleven, improved two, still under treatment two. The hearing power was improved in eight, remained as before in three, and was rendered distinctly worse in two. In suitably selected cases, where caries is confined to small and removable areas of bone, the excision operation will be found of decided value.

The conclusions to be drawn from a careful survey of the subject are:—

(1,) That when in those cases of chronic suppurative middle ear disease, accompanied by perforation of Shrapnell's membrane, and the presence of parietal or ossicular caries, the most careful local treatment has been carried out and has failed to effect a cure, the operation of excision of the membrana tympani and of the ossicula auditus should be performed.

(2,) That, as a rule, purulent inflammation ceases, or, if not, is at least greatly reduced in intensity after the performance of the operation.

(3,) That such symptoms as vertigo tinnitus, etc., are either cured or greatly relieved.

(4,) That recurring attacks of earache are checked.

(5,) That the hearing power is either improved or remains as before, while in a few cases it may be rendered rather worse.

(6,) That in cases of chronic attic disease, with normal atrium, the only perforation being in the membrana flaccida Shrapnelli, the performance of this (or some similar operation) is probably the only means of cure.

Burnett, Sexton, Stacke, Kessel, Colles, and many others, have

published valuable papers upon the efficacy of this operation in suitably selected cases.

Excision of the Ossicles in Sclerotic Median Otitis.—In cases of chronic dry catarrh of the middle ear, where ordinary methods of treatment have been tried and have failed, recourse may be had to the radical measure of removing the membrana tympani and the two larger ossicles, which, having become functionless either from undue rigidity or, in some cases, from undue relaxation, impede the passage of sound waves to the footplate of the stapes, and so to the internal ear. The operation has not been performed so frequently in cases of sclerotic median otitis, nor has it been received with such favourable support as in cases of chronic suppurative middle ear affections. It is claimed, however, that by its performance the progress of the disease is arrested, the hearing capacity is increased, and tinnitus is either much relieved or abolished *in toto*. The first step in the operation consists in transfixing the membrana tympani behind the short process of the malleus with a trowel-shaped knife. Then the same instrument, or a blunt probe-pointed bistoury, is swept round the margin of the tympanic ring, detaching the membrane in this situation. The same steps are then taken in detaching the anterior portion of the drum head, the point of transfixion being in front of the short process of the malleus. If the incudo-stapedial articulation is intact, and can be seen, it may be divided before these incisions are made. If this is not previously done, the detached tissues behind the malleus should be pushed aside in order to bring the parts into view, when the division of the joint mentioned may be accomplished. The incus, if in view, may be removed with forceps. The malleus should then be freed from all its attachments, such as tendinous connections, the tendon of the tensor tympani muscle, and adhesions arising from inflammatory processes, to as great an extent as possible, with a trowel-shaped knife, and removed with forceps or snare.

Should the membrane show signs of re-forming, cocaine may be applied, and as much as is possible be cut away.

Sexton has operated upon many cases of sclerotic median otitis in this way, and has obtained good results.

Miot[7] gives the following indications for excision :—

(1,) It is indicated in cases where hearing is decidedly improved by an artificial perforation of the drum-head.

(2,) Where decided indications of ankylosis and fibrous adhesion exist.

(3,) The best results are to be obtained when the vibrating tuning fork, placed on the vertex, is heard best in the deaf ear.

(4,) In cases of one-sided deafness, with distressing tinnitus so pronounced as to endanger the patient's mental condition.

(5,) There is less urgency for the operation where one-sided deafness exists without other subjective symptoms.

(6,) It is contra-indicated in all cases where tinnitus and deafness depend upon nerve reflexes or a central cause.

Burnett[8] performs a modified operation, and has found that hearing is improved and subjective noises diminished after removal of the two larger ossicles. He sums up his experience as follows :—

(1,) The operation of partial excision of the membrana tympani is practically unattended by reaction.

(2,) Reaction not attending this modification of excision of the membrane, regeneration is less likely to occur than when total excision is performed.

(3,) Removal of the malleus is not necessary for relief in cases of simple chronic catarrhal otitis media.

(4,) The removal of the incus alone, or of the incus and the head and crura of the stapes, is followed by results as good as when the incus and entire stapes are removed.

(5,) Displacement of the incus, and leaving it in the drum cavity when the stapes is removed in part or in whole, is likely to be followed by inflammation of the middle ear.

(6,) Removal of the incus alone, the membrane, malleus, and stapes being left *in situ*, gives more space in the drum cavity, increases its resonance, and permits free access of sound waves to the stapes, thereby improving the hearing.

(7,) The relief of tinnitus and aural vertigo is very probably due to the liberation of the stapes from the impacting weight of the incus forced inwards, and held so by the retractive power of the indrawn membrana tympani and malleus.

Removal of the Stapes in Chronic Catarrhal, and in Chronic Suppurative Middle Ear Affections.—The results obtained from removal of the two larger ossicles, and from mobilization of the stapes, as practised by Miot, have gradually led up to the performance of the operation of stapedectomy. So long ago as 1871, Kessel proved that removal of the stapes did not cause either vertigo or lesions in co-ordination, and that the deafness which was present at first disappeared as soon as the oval window became closed by newly formed membrane.

The accidental evulsion of the ossicle at times, and its occasional spontaneous disappearance in suppurative cases, show that not only is there but little risk to the patient, but also that its disappearance may be attended by considerable gain in hearing power.

The complex nature of pathological changes in the middle ear, and the uncertainty which there must be at times as to the exact portion of the sound transmitting apparatus which is affected, render it desirable to obtain the co-operation of the patient, so that during the various stages of the procedure accurate tests may be applied. Hence, local anæsthesia is preferable to general. Cocaine should be injected into the middle ear a few minutes previous to making the first incisions.

According to Blake[9], an incision should be made in the membrane, beginning at a point midway between the short process and tip of the long process of the malleus, and close to the manubrium, extending upward along the posterior ligaments of the short process, and following its periphery to a point posteriorly on a line with the tip of the manubrium. The tendon of the stapedius muscle is then divided. The incudo-stapedial ligaments are now severed, and the incus removed if necessary. The stapes should now be carefully examined with the probe, and hearing tests applied. It should then be mobilized by a slender blunt hook, curved very slightly backward, passed between the crura either from below upward or in the opposite direction. In cases where the stapes comes away entire, there is first a sense of resistance and then a sense of suction. At times, the crura, which are frequently atrophied in cases of sclerotic otitis, give way. At the moment of evulsion, the character of the pulse varies, becoming either increased or decreased in frequency.

In certain cases, the operation is said to be followed by marked improvement, especially as regards the power of hearing conversation.

REFERENCES.—[1] "Archiv. f. Ohrenheilk," Bd. xxix., p. 241 ; [2] "Brit. Med. Journal," Sept. 9, 1893 ; [3] "Wiener Allgem. med. Zeitung," 1891, 1 and 2 ; [4] "Trans. American Otolog. Soc.," 1890 ; [5] "Archiv. of Otology," Oct., 1892 ; [6] "Brit. Med. Journal," Sept. 9, 1893 ; [7] "Revue de Laryngol. d'Otolog.," Sept., 1891 ; [8] "Medical News," May 13, 1893 ; [9] "Archiv. of Otology," Jan., 1893.

EAR (Therapeutics of).

Abscess, Par-Auricular.—As a topical[1] dressing for par-auricular abscess, Ziem[1] advocates the mixing of a spoonful of **Unrefined Honey** with as much **Rye-meal**, applying the paste, thickly spread, to the inflamed surface, and covering with a thick, impermeable dressing. In five or six hours it should be removed with soap and water, and renewed. Resolution or pointing is apt to be prompt ; and the abscess, opened spontaneously or by incision, is dressed with the same mixture. He ascribes its action partly to the hydroscopic effect of the

sugar, but accords some value to the contained peculiar acid ("amaisensäure").

Eczema of Ear.—Dr. Henri Chatellier[2] considers **Iodol** in impalpable powder as being best. For moist eczema its application is preceded by washing with a lotion of **Van Swieten's Liquor** mixed with three or four times its volume of warm water, drying with absorbent wool, dusting on the iodol night and morning, and covering with absorbent wool. For dry eczema of the auricle the parts are washed as before, and an ointment of 1 part iodol to 30 of lanoline is applied. When the meatus is affected it must be syringed out with the lotion, dried, and filled with a mixture of 1 part iodol to 30 of paraffin oil, well shaken up. A plug of wool is inserted, and the application repeated night and morning.

Dr. Hermet got the best results from a concentrated solution of **Nitrate of Silver** applied on a tampon after syringing with warm water.

Pityriasis of the Ear.—Albespy[3] recommends that all the hairs at the entrance of the external auditory canal be pulled out, and all the epidermal masses be carefully removed by syringing with warm **Boric Acid** solutions, and by **Forceps.** Antiseptic cotton is then taken and rolled into a cylinder about three ctm. long, soaked in a solution of **Silver Nitrate** (1 to 20), and introduced into the canal and left there for twenty-four hours. When these cylinders are removed their surface is covered with blackened and burned scales. The skin beneath is red, but does not bleed. These applications are renewed daily until there are no more scales, and the walls of the canal look smooth. The solution is then changed to one of **Salicylic Acid, Canada Balsam,** and **Collodion,** and the cotton cylinders are soaked in this.

Otalgia.—In some cases where all treatment had failed, Max[4] obtained good results from **Massage** applied by means of an elastic probe, as used by Lucae for sclerotic deafness. The head of the probe is "dimpled" to receive the short process of the malleus against which it is placed while five to ten rapidly-executed pressure movements are made. Pain is usually caused or increased at first, but soon yields, and rarely recurs—if at all—in the author's experience.

Hare[5] reports the successful use of **Butyl-chloral-hydrate** in neuralgia due to middle ear disease. 5 grains in pills were given every two hours until 30 grains had been taken, when total relief followed.

For otalgia the following is a useful formula[6]:—

℞				
	Camphorated Chloral	5 parts	Sweet Almond Oil	10 parts
	Glycerin	30 ,,		

Dip a little cotton wool in this liquid, and introduce it into the painful ear. (The camphorated chloral is made by pounding in a warm mortar equal parts of chloral hydras and flower of camphor.)

Otitis.—Wolfenstein[7] claims to have prevented suppuration in all but 4 or 5 per cent. of his cases of acute otitis by the use of cocaine. A 5 per cent. solution of **Cocaine Hydrochloride** is employed, and 5 or 6 drops are instilled into the meatus, this procedure being repeated when the pain returns. In severe cases he does not hesitate to use the instillation every hour or two, and has never met with toxic effects.

Delstanche[8] treats the first stage of acute median otitis with **Liquid Vaseline Injections**, which are said to relieve pain instantly and bring about recovery in five or six days.

Influenzal Otitis.—Dr. Herck[9] considers that the symptoms are noises, pain, followed by hæmorrhages, either interstitial or ecchymoses of the tympanum, or of the wall of the external meatus, or forming a bluish phlyctenula in the inferior posterior segment of the tympanic membrane, which perforates and allows the flow of blood. This lesion of the external ear is often the only manifestation, and in every case it precedes inflammation of the middle ear. Treatment by injection of **Oil of Vaseline** gives excellent results.

Otorrhœa.—In some chronic cases where boric acid in either powder or saturated solution has proved ineffective or harmful, Theobald[10] advocates copious warm syringing once daily with 1 to 8,000 **Bichloride Solution.**

Shaniavsky[11] washes out the ear with a 3 per cent. **Boracic Acid Lotion**, thoroughly dries the parts, and introduces into the meatus a piece of wool impregnated with **Dermatol**. The result was a speedy cure, but more rapidly in cases of external otitis than where the middle ear was affected, and the drum head perforated.

Labyrinthitis.—When due to fever or syphilis, has been considered incurable. Syme[12] reports two cases due to syphilis where specific treatment with **Pot. Iodide** and **McDade's Mixture** was accompanied by hypodermic use of **Nitrate of Pilocarpin** with very satisfactory results. The injections, beginning with $\frac{1}{10}$ of a grain and increasing rapidly to $\frac{1}{5}$ and even $\frac{1}{3}$, were continued nine and ten weeks.

Ear Disease in Enteric Fever.—Dr. Beverly Robinson[13] concludes that ear disease follows enteric almost as frequently as the other eruptive fevers, although it may not be so severe. He advocates a routine inspection of the ears, precautionary spraying of the nares and pharynx, and hot syringing of the ear when painful, congested, or impacted with cerumen.

Menière's Disease.—Tsakyroglous[14] relies upon **Quinine**, either in the form of sulphate valerianate or hydrobromate, and generally combines it with 0·6 to 1 gramme of **Ergotine** daily. **Iodide of Potassium**

is useful in the apoplectiform cases. Pilocarpin and antipyrin have not given good results in his hands.

Monyardi's[15] recommendations are **Bromide of Potassium** in large doses, 45 grains thrice daily; **Valerianate of Iron** with **Opium**, and **Cascara Sagrada.**

REFERENCES.—[1]Ziem, "Monatsh. f. Ohrenheilk," Oct., 1892; [2]"Brit. Journ. of Laryngology," Sept., 1892; [3]"New York Med. Journ.," Jan. 31, 1893; [4]Max, "Wiener Med. Woch.," July 30, 1893; [5]Hare, "American Lancet," Sept., 1892; [6]"Le Progrès Médical," Feb. 4, 1893; [7]Wolfenstein, "New York Med. Journ.," Nov. 5, 1892; [8]Delstanche, "Sem. Méd.," Nov. 30, 1892; [9]French Society of Otology and Laryngology, Paris, May 12, 1893; "Brit. Journ. Laryngology," June, 1893; [10]Theobald, "Therap. Gaz.," Dec., 1892; [11]"Shaniavsky, "Meditzinskoiĕ Obozrenië," No. 10, 1892; [12]"Australian Med. Journ.," May 15, 1891; [13]Robinson, "Practitioner," Sept., 1893; [14] "Monatsh. f. Ohrenheilk," Nov. 1892; [15]"Brit. Journ. Laryngology," Jan., 1893.

Synopsis.—(Vol. 1893, p. 193.) **Morphinated Gelatine Cones of Cocaine** and of **Menthol**, continuous **Warm Bathing** by a siphon ear douche, application of **Leeches** to the tragus and **Incision**, are indicated for furuncle of the meatus. Chronic "attic" suppuration often requires **Excision of the Ossicles**, the ear being previously irrigated with **Carbolic** or **Boracic Lotion** several times daily, the auricle scrubbed with **Turpentine** or **Ether**, and kept covered with a carbolized towel to secure asepsis. To diminish hæmorrhage, a 20 per cent. **Cocaine Solution** is kept in the external meatus for five minutes before operating; afterwards the ear is irrigated with **Boracic Lotion**; **Iodoform** is insufflated and the meatus packed with iodoform wool, or **Europhen** may be substituted on account of its hæmostatic properties, and dressings are changed when they become moist.

ECZEMA (of the Hands or Fingers). *P. G. Unna, M.D., Hamburg.*

The treatment of eczema, if the patient be in fairly easy circumstances, has become a relatively easy and grateful task. We owe this advance largely to the high degree of perfection that has been attained in the manufacture of the manifold more or less costly pharmaceutical preparations.

In the form of pastes, gelatines, salve-mulls, plaster-mulls, and soaps; in the form of impervious dressings, and of dermal splints; with the aid of so many drugs of tested efficacy, such as the **Oxides of Zinc**, and **Lead**, and **Mercury**; such as **Tar, Sulphur, Ichthyol, Resorcin, Pyrogallol**, and **Chrysarobin**; our choice is so richly supplied that we are seldom at a loss in dealing with an eczema if the patient be not pinched for means, and if the skin can be kept protected from day to day.

It is easy to understand, however, that on the score of expense, these advances have found but little application in practice amongst the poor, in ordinary out-patient work. Here we are still for the most

part obliged to cope with a host of such cases under great difficulties. Sometimes the remedy may be stinted in use ; or its form may not suit the case ; or it may be that it will not be properly applied. Yet two distinct and real advances have been made, of which the one consists in the use of pastes instead of ointments, and the other in the introduction of that almost omnipotent remedy **Chrysarobin.**

But in treating these poor patients their poverty is not our only difficulty ; even greater obstacles are presented by the circumstances of their home life which make it impossible to give the part we are treating complete protection and rest. These disadvantages are in some measure compensated for, inasmuch as the poorer patients will generally endeavour to second our efforts at the cost of more time and trouble to themselves than those in better circumstances.

In the case of persons who have to earn their bread, when the disease affects certain parts of the body, eczema is peculiarly difficult to deal with. In laundresses, shop-keepers, and masons ; in cooks and in house-wives who do their own rough work, an eczema of the hands or fingers is very troublesome indeed. It is my wish therefore in this paper to point to certain improvements in the treatment of such cases.

First of all we must satisfy the demands of prophylaxis. Any possible seborrhœic eczema of other parts of the body must be followed up. In particular we must examine the head, and discover whether pityriasis capitis, or a dry seborrhœic eczema of the scalp, be present. For a moist eczema of the fingers is not uncommonly nothing more nor less than a younger colony sprung from this lurking place of an old seborrhœic eczema. If this suspicion prove to be correct, as it so often will, the scalp-eruption must be checked and kept at bay by means of **Sulphur Ointment.** An occasional but timely use of this dressing will prevent a return of the disease.

Under the untoward circumstances which we have been considering, the treatment, to be at the same time effectual and feasible, must as a first condition cure the eczema as promptly as possible. In the next place, it must not interfere with the patient's work ; and lastly, the work must meanwhile be prevented from acting harmfully on the skin, and from interfering with the treatment.

It is not always possible to fulfil these conditions in the same way. According as the work that is injurious has to be pursued continuously throughout the day, or not continuously, we broadly distinguish two main groups.

The group in which such work is not continuous contains, for instance, such persons as cooks, household servants, and housewives.

Into the second group come washer-women, shop-assistants, and masons.

Let us take first the less difficult task. For household servants and poor housewives I have found in my own out-patient practice the following method of value.

Before going to bed at night the hands are well cleansed, and in particular the nails must be kept pared and clean. For dry eczema plenty of soft soap and warm water are used, whilst for a moist eruption slightly soapy water is employed, *i.e.*, the solution of soap is weaker. Then one or other of the excellent, inexpensive pastes that I will presently mention is rubbed upon the eczematous patches, any very moist places being first dusted with ordinary meal and dried. If both hands be affected with eczema the patches are covered with paste, and rubbed one against another until the paste becomes dry; otherwise the sound hand is used to rub on the paste. Next, the patches, together with the neighbouring healthy skin, are covered with pieces of exceedingly thin gutta-percha tissue, such as flower-sellers use for wrapping round the stems of flowers. Upon dry skin, if pressed for a few seconds with the warm hand, it sticks very well and holds for a considerable time, so that there is no need for any further dressing. It can be bought so cheaply that even quite poor persons are able to use fresh portions each night. In order that this gutta percha tissue may affix itself to sound skin, and form an air-tight covering, the pieces must be cut somewhat larger than the eczematous patches, and for the fingers it is best to use long narrow strips and to wind them spirally round each finger. In this way, whilst the paste gradually dries the skin, the impervious dressing prevents the drying process from going too far. When the dressing is removed not only is the skin already better, but it is also softened, and does not tend to fissure. Indeed even deep rhagades, which are greatly dreaded by such patients, always heal in a day or two. To keep this improvised gutta percha plaster in its place, a pair of cotton gloves may be drawn on over it.

In the morning the dressing is left undisturbed for the time being. It will withstand a certain amount of moisture, so that a damp sponge may be used to refresh the face. Housewives, cooks, and servant-maids get through the first part of their morning's work, the roughest part, *e.g.*, the fire-lighting, dusting, and scrubbing, with this dressing upon the hands. Of course it gradually gives way, but yet with the help of the gloves it affords a sufficient amount of protection. Not until after the rougher work is over does the patient remove the gutta percha tissue. This is done with a dry towel. The hands are not washed—indeed

they get but little soiled—but some of the paste is immediately smeared over the eczematous surfaces. The patient can then get through the cleaner part of her day's work, such as cooking or sewing, with but little hindrance. After the day's work is finished the hands are again well soaped, and a fresh dressing applied which is to last until the midday following.

My experience is that by adopting this method the work and the treatment clash as little as may be, and that the healing makes good strides day by day.

I recommend, as suitable for this plan, the following pastes. They are effectual and cheap; indeed at a very small cost the ingredients may be got at a druggist's, and the pastes made up at home.

I.—A cheap zinc paste:—

℞				
	Oxide of Zinc	40 per cent.	Lead Lotion	20 per cent.
	Chalk	20 per cent.	Linseed Oil	20 per cent.

The zinc and chalk are first mixed; the lotion and the oil are then shaken up together to form an emulsion; into this emulsion the solid constituents are well rubbed until a good paste results.

II.—A cheap lead paste:—

℞				
	Oxide of Lead	50 per cent.	Ordinary Vinegar	75 per cent.

These two substances are kept boiling for about ten minutes in an earthenware vessel, until on being boiled down to 75 parts they form a liquid of firm consistence; with this 25 parts of linseed oil are then mingled.

III.—A cheap zinc sulphur paste:—

℞				
	Ox. of Zinc	20 per cent.	Linseed Oil	20 per cent.
	Sulphur	20 per cent.	Lime-water	20 per cent.
	Chalk	20 per cent.		

The zinc and the sulphur and the chalk are well mixed; the lime-water and the oil shaken to an emulsion; finally the emulsion and the dry substances are rubbed into a smooth paste.

Observe that in each of these, the powdered substances are in greater proportion than the liquid constituents. Therefore it is that these pastes when applied quickly yield a dry surface, and afford a better hold to the gutta percha tissue.

Being so easy to prepare and so inexpensive, these pastes are as suitable for dispensing to out-patients as they are for making at home.

Where the eruption is of longer standing, and although healing has for the most part gone on well, there remain isolated obstinate patches, these need stronger measures. For this purpose I recommend the pencils that are used in my own out-patient practice. They are of two kinds, the one made with chrysarobin; the other, which has

proved very serviceable also in lupus, made with chrysarobin and salicylic acid. It is not advisable to entrust the application of these to the patients themselves.

The formulæ are :—

℞	Chrysarobin	10 per cent.	Wax	60 per cent.
	Lanoline	30 per cent.		

And

℞	Chrysarobin	10 per cent.	Lanoline	30 per cent.
	Salicylic Acid	20 per cent.	Wax	40 per cent.

In making these, the molten mass is poured into glass tubes which have been plunged into warm water. When cool the pencils are pushed out. They are about as thick as one's finger, and are cut into short lengths, and wrapt in stanniol.

The eczematous patches are pencilled over when the patient comes to be seen. Afterwards at home some paste is smeared over this application, and covered as already explained with gutta percha tissue.

We come now to the other group of cases, in which the injurious calling is pursued continuously throughout the day. The mere treatment chiefly by night is here insufficient, and we have to contrive some method which can be used, without interfering with the occupation, throughout the day. It must at the same time be healing to the skin, and protect it. The dressing of paste, covered by gutta percha tissue, would not hold out against the work of a laundress or of a mason, and would look uninviting on the hands of a shop-assistant. The pastes we have mentioned would have a healing effect, but at the same time they would make the horny layer rough and dry, and they would not give sufficient protection. The point in these cases is to provide the whole surface of the hand with a protective covering that will not easily come away.

Amongst the inexpensive substances suitable for this purpose **Tar** is the best. Diluted with a little spirit and some castor oil and smeared over the hands, it both protects and tends to heal the skin. To keep the hands tarred throughout the working hours is, however, only possible in the case of such employment as the mason's. In this instance it is the very best thing, for its acidity tends to neutralize the ill-effects of working with lime and mortar.

But for cases in which the protective coating may not be conspicuous, as for shop-assistants, and for cases in which it must not wash off, as for laundresses, it is necessary that it should consist of the thickened horny layer itself, and it is therefore a question of strengthening that horny layer. For this purpose **Resorcin** is best. We have often had

occasion to observe that the same **Resorcin-pastes** that will cause complete peeling of the face within four days, will produce on the hands a horny thickening that lasts for weeks and withstands both bathing and washing. Of course so long as the eczema is moist such doses of resorcin cannot be used. This treatment is therefore of service only for dry eczema, and further as a prophylactic after healing has been already attained. Moist eczemas must first be brought by gentle remedies into a dry condition. Then every evening, after a thorough cleansing, both hands are smeared all over with this paste, which of course must be dispensed by a chemist :—

℞ Ung. Zinci
Resorcini āā grm. 10·0 | Terr. Siliceæ grm. 2·0

M. ft. pasta.

When the paste has been rubbed in until dry, the surface is smeared with oil, or vaseline, or with some animal fat, and gloves put on for the night. In the morning the hands are not washed, but only well greased before work begins, and not until work is done are they again thoroughly cleansed. We shall find that under this treatment the patches of eczema become covered with a dry scurf, which comes away in a few days ; and that the healthy skin becomes covered with a thickened horny layer which is lasting. As the treatment is kept up the horny layer over the unhealthy areas becomes more and more permanent in proportion as they get better. If at first the whole hands have been treated for a few evenings, it will soon only be necessary to treat the eczematous patches, and when they are healed the remedy may be discontinued. Then the skin merely needs greasing in the morning before work, and again in the evening. After a week or two, when the resorcin-induced horny layer begins to be shed, the paste is rubbed in again for a few times in order to set up afresh the thickening process. Little by little this application will become less necessary, since meanwhile the epidermis becomes more resistant to the injurious nature of the patient's work.

Further, let it be remembered that what I said about prophylaxis applies equally to such eczemas as are associated with particular callings, or occupations. It is generally only an artificial dermatitis that is set up by the employment, but upon this dermatitis a seborrhœic eczema derived from the scalp may implant itself. In these cases the scalp must always be treated, as well as any patch of eczema that may exist elsewhere upon the body.

Synopsis.—(Vol. 1893, pp. 27, 33, 51, 57 and 208.) **Gallacetophenone**, 10 per cent. ointment, recommended by Goldenberg for eczema psoriatiforme. Tincture of **Ledum Palustre**, 5 to 20 ♏, has been used to control irritation of gouty eczema. Richardson recommends application of

Styptic Colloid (a saturated solution of tannic acid and xyloidine or gun cotton) in absolute alcohol and pure ether, with perhaps a little benzoin added. Eddowes dries a weeping eczema by dabbing on **Lead and Spirit Lotion**, followed by free dusting with **Zinc Oxide, Starch** and **Boric Acid.** Simon treated a few very chronic cases with **Pilocarpine Injections,** $\frac{1}{8}$ to $\frac{1}{4}$ gr. twice daily, and with the best results. Saalfield recommends **Thilanine.** Neisser has obtained good results with **Tumenol.** Leven applies to obstinate weeping eczema a 1 per cent. solution of **Silver Nitrate** by day, and **Bismuth Ointment** at night. Duhring's treatment of acute vesicular eczema is by **Black Wash** diluted with 1 or 2 parts of **Lime Water** and a little mucilage, followed by application of cloths spread with **Zinc Oxide Ointment** or **Paste,** and renewed thrice daily.

ELECTRIC OPHTHALMIA. (See "Eye.")

EMPYEMA. (See "Pleurisy.")

ENCEPHALITIS.

In the treatment of acute encephalitis, Crocq recommends the application of six **Leeches** behind the right ear, since the seat of the disease is thought to be especially on the right side of the brain. At the same time the following formula is advised :—

℞ Calomel	1 gramme	Sugar	q.s.
Aloes	30 grammes		

Mix, and make three powders; take 1 every two hours.

This combination acts as a resolvent, purgative, and revulsive. In the course of a few days, according to indications, the leeches are reapplied and **Iodide of Potassium** is administered. As to diet, vegetable soups and milk are to be depended upon.

REFERENCE.—"Therap. Gaz.," March, 1893.

ENDOMETRITIS.

Chéron[1] adopts the following method of drainage of the uterus for endometritis. After preliminary antiseptic precautions a loop of 20 to 100 strands of silkworm gut is introduced on a special holder; the free ends of the gut being fitted into a celluloid plate. Its introduction is followed by free discharge and amelioration of all congestive symptoms. This treatment is indicated specially in catarrhal endometritis, also in subinvolution of the uterus; after the use of the curette in salpingitis, hæmorrhagic endometritis, etc. In dysmenorrhœa of congestive origin, and also where this condition is accompanied by anteflexion or stenosis, it has rendered valuable assistance.

Bonnaire[2] uses india-rubber tubes one-fifth of an inch in diameter and well perforated, but here either a tent or Hegar's dilator is a necessary preliminary. He plugs the vagina with **Iodoform Gauze,** renewing the dressing every other day after using a uterine injection.

Up to the present time no untoward results from such drainage has been reported, provided that rest and antiseptic dressings were adopted. The contra-indication is the presence of acute or sub-acute inflammatory conditions of the uterus and appendages.

Keiffer[3] considers that pain in the lumbar region, neuralgias, palpitation, and gastralgia due to endometritis, are almost invariably relieved by the introduction of a well-chosen pessary. With this adjunct to treatment, the application of caustics and the internal use of hot water become more effective, since the prolapsed uterus is uplifted and supported. The indications for the use of the pessary in cases of metritis are as follows: (1,) When endometritis and uterine prolapse co-exist; (2,) When metritis is not accompanied by pelvic adhesions; (3,) In cases of subinvolution; (4,) After curetting in the preceding cases, and especially after curetting in cases of abortion.

Mariantchik[4] and Curatolo[5] have employed **Ichthyol** in aqueous and glycerine solutions, and on tampons for various inflammatory conditions of the uterus and appendages. They found that although tenderness of the cervix and body of the uterus was somewhat lessened, the inflammatory conditions were not materially influenced by the drug.

Boursier[6] condemns the use of sulphate of copper points in endometritis. Their action is uncertain; grave symptoms may result; the eschars produced may reach to the muscular coat of the uterus, and the conclusion is drawn that the method is inferior to the use of the curette in every respect.

Bouilly[7] notes that no permanent benefit ever follows curetting, antiseptic injections, or medicated tampons and applications in the chronic cervical endometritis of young, childless married women, with narrow os but no laceration and no sclero-cystic degeneration. The cervix is filled with free glairy discharge, which escapes into the vagina; there is little, if any, pain. Bouilly, in these cases of glandular cervical endometritis, dilates and scrapes the endometrium, and then dissects away a thin flap from the half-circumference of each lip of the cervix. The raw surfaces thus exposed must not meet, a narrow vertical strip of tissue being left on each side to regenerate the mucosa. After the dissection two gutters lie face to face on the cervix close to the os. The gaping cervical canal is plugged for awhile with **Iodoform Gauze**; this is specially needed, as hæmorrhage may follow the operation. The discharges can freely escape. Conception followed in two cases that had been sterile for years.

Schultze's[8] method for diagnosis consists in leaving a tampon soaked in a **Tannin-glycerine Solution** (20 to 25 per cent.) pressed

against the uterus for twenty-four hours or longer. At the end of that time, if the uterus be healthy, a small clot of pure mucus will be found on the tampon. If unhealthy, the tampon will be covered with pus. Grynfeldt, of Montpellier, has for long employed a simpler method. When a jet of hot water is played against the cervix, the latter turns pale, owing to anæmia from contraction of the uterine muscular tissue. That contraction also expels from the cavity of the womb the pathological products of chronic endometritis, a muco-purulent secretion. It escapes freely when the douche is discontinued. This test is very easy and sure ; it also serves to prove whether the case be really cured after treatment.

REFERENCES.—[1] Chéron, "Gazette des Hopitaux," Oct. 29, 1892; [2] Bonnaire, "Journ. de Méd. et de Chirurg. Prat.," Feb. 10, 1893 ; [3] Keiffer, "Gaz. de Gyn.," May 1, 1892 ; [4] "Vratch", Nos. 32 & 34, 1893 ; [5] "Rif. Méd.," May 31, 1892 ; [6] "Arch. de Tocol. et de Gynéc.," Sept., 1892 ; [7] "Nouv. Arch. d'Obstet. et de Gynéc.," March, 1893 ; [8] "Arch. de Tocol. et de Gynéc.," August, 1892.

Synopsis.—(Vol. 1893, p. 209.) Kaltenbach recommends avoidance of caustics which cause stenosis and atresia and also of frequently repeated intra-uterine applications, and especially forcible dilatation of cervix, as producing nervous symptoms and depression as well as local inflammations. The vulva and vagina are carefully cleansed before applying medicaments, and the interior of the uterus dried with cotton. In chronic cases the Curette is used to remove the thickened mucous membrane. Patients should be kept in bed five or six days after local treatment, which may be repeated after some weeks.

ENTERIC FEVER. (See also "Typhus.")

Cold-bath Treatment.—Dr. Osler[1] claims that the effects of this treatment are, first, to reduce the fever—principally by favouring heat-dissipation and by the direct action of the cold water upon the blood that circulates in the superficial vessels ; second, as a general tonic to the nervous and circulatory systems. Perhaps the most striking effect is seen in the lessening of the nervous irritability, the favouring of sleep, and the clearing of the mind. In patients treated early by this method we rarely see the dry tongue, the muttering delirium, the subsultus, and the other grave nervous phenomena which are of such serious import in typhoid fever. The baths, too, appear to improve the general nutrition : the patients take their food better and digest better, and the vital processes seem all more active. The indication for the bath is a temperature of 102·5° or higher. The contra-indications are hæmorrhage from the bowels, not because the cold baths tend to increase the hæmorrhage, but because they interfere with the essential element in treatment, namely, rest. In the extreme debility of the last stages, in cases with a running pulse, particularly in cases admitted in

the third week or in a relapse, it may be advisable to omit the bath. Pneumonia and bronchitis are not contra-indications, and pleurisy is so only when the pain is severe. Perforation of course necessitates a cessation of the bathing.

At Philadelphia University Hospital[2] the following rules for bathing are observed in typhoid: (1,) When temperature of patient is below 101°, temperature observation is to be made every three hours; when above 101°, every hour; when 102°, every half-hour; (2,) Temperature of bath, 70°; tub is wheeled beside the bed, and patient lifted in by two nurses, one holding the patient under the arms, the other by the legs; (3,) Systematic rubbing is kept up during the bath, and afterwards if the patient shivers much; (4,) Water (temp. 50°) is poured over head and shoulders at the beginning of the bath; (5,) If desirable, a hot drink, such as hot milk or milk punch, may be given the patient during the bath. If temperature is difficult to reduce, a glass of ice-water may be given instead; (6,) Patient remains in bath from fifteen to eighteen minutes.

If temperature tends to remain high, cold cloths or an ice-cap are applied to the head.

The treatment pursued at this hospital is the Brand treatment. Whenever the temperature of the patient reaches 102⅕° he is plunged into a tub of water (temperature of 70°) and allowed to remain for fifteen minutes. The effect of the baths on the temperature of different patients varies. Some drop immediately to normal or thereabouts, while others require a repetition of the baths to keep the temperature below 102⅕°. In none of the bath cases was there observed any delirium whatsoever.

Eliot[3] commences the treatment by administering 10 grains of **Calomel** every other day until four doses have been taken, and also orders a mixture which contains 1 drachm of **Carbolic Acid** and a sufficient quantity of **Tincture of Iodine** to make 4 drachms, of which 4 drops in a wineglassful of cold water are to be given to the patient every four hours. For children smaller doses are of course prescribed. If the bowels do not move within twelve hours after the ingestion of the calomel, as sometimes happens even after a 10-grain dose, it is wise to order drachm doses of **Sulphate of Magnesia,** to be dissolved in a little water, and repeated every fourth hour until a movement occurs.

Werner[4] recommends the employment of **Chloroform** in the treatment of typhoid fever, because he has obtained good results in no less than one hundred and seventy cases. During the period of ascendency he administered chloroform in a 1 per cent. solution, using 2 dessertspoonfuls every one or two hours night and day. During the

period of descendency, chloroform in the same percentage was given in the dose of a dessertspoonful every two or three hours. Vomiting occasionally comes on, but is exceptional, and icterus was seen in only four cases. The medicine is, however, well tolerated by patients, and no disagreeable secondary phenomena usually follow its use.

The advantages which he claims for it are the decrease of the mortality, diminution in the severity of the diarrhœa, and in the fact that meteorism becomes less and less.

Dr. B. W. Richardson[5] recommends **Methylene Bichloride,** as the best antiseptic in typhoid, as follows :—

℞ Methylene Bichlor.	ʒj	Ac. Hydrochlor. dil.	♏ 30
Solut Hydrogen. Perox. (10 vols.)	ʒj	Aq. dest. ad	ʒvj

Sig.— A $\frac{1}{12}$ part in half a tumbler of pure water every three hours.

Tortchinsky[6] found that **Boracic Acid,** in daily doses of from 10 to 60 grains, after an initial purgative dose of **Castor Oil** containing 5 to 20 drops of **Turpentine,** diminished the fever, diarrhœa and tympanites of typhoid.

Posajnyi[7] employed **Salol** in a daily dose of 0·35 to 1·5 gramme, selecting cases of typhoid in which severe diarrhœa or meteorism were present or indican was found in the urine ; 50 per cent. showed complications such as bronchitis, catarrhal pneumonia, otitis, nephritis, etc. In 25 per cent. no effects were noted, but in the remaining 75 per cent. all symptoms improved markedly. In about 25 per cent. diarrhœa ceased after one or two days' administration of the drug, and did not recur when it was discontinued. The temperature was not materially influenced.

Hare[8] remarks that compressed pills of **Salol,** or even coated pills of salol, unless they are very soft, should not be given in typhoid fever, because, owing to defective secretion in the gastro-intestinal tract, they will probably not dissolve, and if not, act as foreign bodies upon the ulcers with which they come in contact.

Latham in a useful paper repeats the rules laid down by Armstrong and Graves for guidance in the use of **Alcohol:** (1,) If the tongue become more dry and brown, it does harm ; if it become moist, it does good ; (2,) If the pulse become quicker, it does harm ; if it be rendered slower, it does good ; (3,) If the skin become hot and parched, it does harm ; if it become more comfortably moist, it does good ; (4,) If the breathing become more hurried, it does harm ; if it become more deep and slow, it does good ; (5,) If the patient become more and more restless, it does harm ; if he become more and more tranquil, it does good.

REFERENCES.—[1] "Medical News," Dec. 3, 1892; "Pract.," March, 1893; [2] "Med. Times and Register," Dec. 24, 1892; [3] "New York Med. Jour.," Aug. 6, 1892; [4] "Journal de Médecine de Paris," May 29, 1892; [5] "Asclepiad"; [6] Tortchinsky, "Bolnitchnaia Gazeta Botkina" No. 48, 1892; [7] "Bolnitchnaia Gazeta Botkina," Nos. 28 and 29, 1892; [8] "Therap. Gaz.," Feb., 1893.

Synopsis.—(Vol. 1893, p. 210.) Boyd uses **Chlorine** in alkaline solution on antiseptic principles. Werner uses **Chloroform**, giving ounce doses every one or two hours of a 1 per cent. solution. Anderson administers hourly doses of 5 drops of **Perchloride of Iron** in water and **Glycerine**, and if nausea is present, 4 grs. **Subnitrate of Bismuth** are given ten minutes before the iron. De Simone gives **Calomel**, 5 c.grammes, and **Opium**, 1 c.gramme every two to four days. Pearson prescribes nothing more than 15 to 20 minims of the following solution every three or four hours: Dissolve 1½ lbs. **Carbonate of Soda** in 24 ounces of water, triturate thoroughly 1 lb. **Chloride of Lime** in 120 ounces of water, filter both solutions, mix them and filter them again, forming a clear fluid which should be kept in a cool place. This treatment is pursued until the temperature has remained normal for two days. Tordeus uses ℞ Antifebrin, Resorcin, āā 0·30; Elixir de Gaius, Distilled Water, āā 36 grammes. Sig.—½ oz. every three hours. Wood recommends **Turpentine**: ℞ Ol. Terebinth., ℥ij; Glyc. ℥j; Mucil. Acaciæ, ℥iss, Aq. Menth Pip. q.s. ad ℥viij. M. ℥ss every four hours by day. Specially useful if ulcers heal slowly and for marked tympanitis with dry tongue. If milk cannot be kept down, Beatty advises the use of whey and then beef tea with the grounds, or beef juice should be given with it to take the place of casein.

ENTEROPTOSIS.

After giving a historical sketch Krez[1] refers to Bartel's view with regard to the occurrence together of movable kidney and dilatation of the stomach. If owing to tight lacing the kidney is pushed down, the descending portion of the duodenum may be pressed upon and the outflow from the stomach made difficult. In one case recorded by Heller, the duodenum was actually found to be dilated. Glénard was the first to point to prolapse of the various organs as a cause of nervous dyspepsia. The hepatic flexure of the colon, the transverse colon, and the stomach sink in position. It is said that enterostenosis may thus arise, and that by prolapse of the duodenum a kinking may take place. The frequent displacement of the kidney is only one link in the chain of these displaced organs, and prolapse of the uterus completes the condition. The diagnosis of enteroptosis is made by pressure on the hypogastrium upwards and inwards, when the symptoms are relieved. The author relates the case of a woman whose symptoms were referred to enteroptosis, and who died subsequently of tuberculosis. The stomach was dilated and displaced downwards, and the transverse colon was situated three fingers' breadth below the navel. The hepatic flexure was on a level with the crista ilii. Both

kidneys, especially the right, were displaced. The right kidney could be brought forward towards the navel and put back into its place. The liver showed a constriction, and was adherent to the diaphragm. The spleen was unaffected. The duodenum was not dilated. The displacement of these organs in the sense used by Glénard is not to be doubted. The author refers to five cases of enteroptosis and analyzes the symptoms present. He believes that the whole process is commenced by the sinking of the hepatic flexure of the colon, as this has the loosest connections with the posterior abdominal wall. Of the causes of enteroptosis child-bearing is the most important, but others, such as tight lacing, rapid disappearance of fat, riding, dancing, etc., must be taken into account. The author refers also to hereditary predisposition. The treatment is chiefly by the hypogastric belt.

REFERENCES.—1" Münch med. Woch.," Aug. 30, 1892; "Brit. Med. Journ.," Dec. 17, 1892.

ENURESIS (in Children).

John Madeson Taylor, A.M., M.D., Philadelphia.

In the treatment of enuresis in children we have to consider chiefly disturbance of vascular tone dependent upon diathetic vices possibly, or reflex causes probably, or more often both together. When failures have occurred at our own hands, or if called upon to repair those of others, the obvious duty is to search more carefully into the symptoms and antecedent phenomena, personal or parental. Barring serious structural defects, and here they are rare enough, the disorder is quite a curable one. Patience and persistence in simple measures, accompanied by critical care in outlining and systematizing, these are far more efficacious than novel or radical procedures. The particular needs for medication are: (1,) To correct diathetic errors; (2,) To regulate nervous discharges by re-establishing disturbed equilibrium; and (3,) To forcifully control the vascular mechanism, both general and vesical. The use of drugs should be in such measure and frequency as to secure physiological effect, and not to omit suddenly, but lessen by degrees.

In adjusting the doses, the material should not be the crude uncertain drugs ordinarily found in chemists' shops, but by adopting well attested preparations.

The therapeutic nihilist is the outcome of an era of clumsy pharmacy. Children readily take small pellets or granules of well authenticated alkaloids or glucocides, or the tablet triturales now growing in favour, and thus we are sure of expected effects. By

the gradual use of **Atropine** and **Strychnia**, alternating or along with **Ergotin** or **Tr. Cantharides**, most cases are influenced favourably.

At times **Hyocine Hydrobromate** is better than atropine, and is well combined with **Camphor Monobrom.** To steady and regulate vascular conditions, **Digitaline** and **Strophanthine** or **Sparteine** are valuable.

* * * * * * * *

Dr. Taylor sends us the above as his summary of a valuable clinical lecture in which he discusses the conditions producing enuresis in children. In this lecture he divides these conditions as follows: (1,) Mechanical, *e.g.*, from adherent folds of mucous membrane; (2,) Mechanical irritation from worms, etc.; (3,) Diathetic causes. Chief among the last named is uric acidæmia, a condition common in early childhood, but frequently overlooked. Certain conditions favour its development; for instance, over-fatigue in play or in excitement precipitates the uric acid in the blood, and several conditions result, one of these being a temporary feverishness and general unrest, which goes by the name of febricula. It may also manifest itself as tonsillitis, or several forms of pharyngeal irritation, and even if such results as these do not arise, at least there is a precipitation of the uric acid in the urine, and this may cause several kinds of irritation, either in the kidney or bladder.

When the bladder becomes loaded with this over-acid urine, it is induced to make especial efforts to get rid of it, and where this cause has existed for some little while, a loss of control results in a mortifying outflow of urine during hours of relaxation, especially in sleep. This will also transpire even in waking hours. In states such as these, again, the urine is likely to be less in quantity, although sometimes it is in very great excess, and then we have the additional element introduced of overmuch urinary secretion and consequent hyperdistention of the bladder. Then there are many other conditions which produce relative overfilling of the bladder with irritating urine, as where it is shown to be phosphatic or loaded with alkaline carbonates. These are usually the result of depressed states of health from diverse causes.

Certain paralyses need also to be considered, and in many cases very careful search is necessary for their detection, *e.g.*, slight hemiplegias with descending degenerations may have long existed and yet escaped recognition. Occasionally enuresis is a symptom of anterior poliomyelitis, and also of certain peripheral disturbances of which diphtheritic paralysis is perhaps the most common.

Dr. Taylor has employed **Hydrobromate of Hyoscine** very successfully, and in connection with the use of any of the mydriatics he

emphasizes the necessity of increasing the dose *day by day*, as in this way the value of the drug is speedily demonstrated or it is abandoned. His experience of **Cantharides** is favourable, but the dose must be slowly and cautiously increased while its combination with **Belladonna** is favoured by physiological considerations. Some alkali, *e.g.*, **Bicarbonate** or **Phosphate of Sodium**, is indicated if the liver and digestive tract are deranged, and also when hyperacidity of urine is present. Milk is the typical diet. Regular evacuation of the bowels —preferably at night—is important, and should be aided by enemata if required. Tilting the foot of the bed so that the head shall be considerably lower than the feet, is sometimes a useful manœuvre in conjunction with other remedies. Among the severer measures dilatation of the urethra with the solid sound is recommended in boys, and may have some value as a counter-irritant as well as assisting in the detection of calculus. In the treatment of adhesions circumcision is an extreme measure, and Dr. Taylor prefers the following method : A blunt-pointed probe, or similar instrument, is cautiously run around over the head of the glans from the frænum on one side, by small circular motions, to the frænum on the other, and then advancing the point of the probe a little, again rotate back to the first point to the right, and then over to the left, until gradually adhesions under the foreskin are broken up, and then, when this is done, introduce into the cavity thus formed some lubricant, and make sure of its proper distribution. Afterwards the foreskin may be gently retracted ; but if the opening be small, postpone this for a day or two, when, again running the probe back and forth over the glans, very likely the foreskin can be retracted. Failing this, wait a few days longer, and if the os still be very constricted, gently stretch it by some suitable instrument, as a pair of dressing forceps, and thus gradually secure the desired end. The mother is carefully instructed to wait a certain length of time after these manipulations, and then herself to retract, wash, and reanoint the parts ; to be done at intervals of two or three days. A more rapid stripping may be safely done, but in the manner described everything needed is usually accomplished, and with the minimum of pain and discomfort to the child and of an alarm to the mother, always an important consideration.

In little girls, irritations about the vagina must be looked for in the same way, although occurring less frequently. The prepuce of the clitoris is not seldom adherent, just as occurs in boys. The process of relieving it is very much easier in the girls, however, and yet of quite equal importance. It may sometimes be necessary in these procedures to use a little cocaine locally, but it is well to bear in mind that a mild

solution of cocaine applied to the urethra, both in children and in adults, may produce most unexpected and serious depression.

Extensive skin-lesions, as of eczema or dermatitis, need to be eliminated in treatment.

REFERENCE.—"Therap. Gaz.," April 15, 1893.

EPIDIDYMITIS.

Trzcinski treats epididymitis by external applications of the **Nitrate of Silver Ointment**, 1 to 10. This, he claims, causes prompt resolution.

REFERENCE.—Trzcinski, "Archiv. für Dermat. und Syph.," 1892, Heft 2.

EPILEPSY. *Græme M. Hammond, M.D., New York.*

Dr. Peterson[1] recommends daily **Cold Shower Baths** or **Cold Sponge Baths.** The shower bath should be rain-like in character—that is, not too forcible. In many cases a morning and evening bath proves very serviceable. The "half bath" is taken in a bath-tub half filled with water at a temperature varying from 50° to 70°, should last about five minutes, and should be accompanied by energetic rubbing by an attendant. Where there is evidence of cerebral hyperæmia and increased blood pressure in the head, the cold cap is useful.

During a fit, or during *status epilepticus*, it will be observed that there is one of two vascular conditions present; either the face is pale, and there are signs of brain anæmia, or there is turgescence of the vessels of the head, the face is red, and the carotids beat strongly. In the former case **Warm Wet Compresses** should be applied to the head and genitals, accompanied by friction of the body upwards, the body being placed with the head low and arms uplifted. In the latter condition cold compresses should be applied to the head, neck, and genitals, strong wet beating of the feet should be performed, and the head should be placed in a high position. This treatment should be applied daily for thirty seconds.

Flechsig[2] has a high opinion of **Opium** in epilepsy. He administers the drug in the form of a gummy extract, and employs progressive doses, from 15 to 75 and 105 centigrammes for six weeks consecutively. At the end of that time he stops the use of the opium abruptly, and for about two months prescribes the **Bromide of Potassium**, commencing with a dose of 7½ grammes daily and gradually diminishing it to 2 grammes. The convulsive attacks disappear as if by magic the moment the treatment by opiates is suspended, and that of the bromides initiated.

For bromide acne Féré[3] uses **Arsenic, Naphthol,** and **Bismuth Salicylate.**

Bates[4] advocates the use of **Nitro-glycerine** by hypodermic injection during the convulsion. In his first case the patient had had attacks for four years. The fits were of the grand *mal* variety. A hypodermic injection of $\frac{1}{100}$ grain of nitro-glycerine was given, and before the needle could be withdrawn total relaxation took place, consciousness returned, and the patient was able to talk. Bates has tried this plan in twelve cases without a failure.

Alexander[5] speaks highly of the efficacy of **Borax** in controlling epilepsy, particularly if the drug is combined with small quantities of **Bromide**, particularly **Bromide of Sodium**. His favourite prescription is as follows :—

℞ Sodii Biborat.	gr. 200	Syr. Simplic.	℥j
Sodii Bromid.	gr. 50	Aquæ ad	℥x

Sig.—℥j t. d. ex. aq. p. cib.

The full dose sometimes produces gastric troubles, flatulence, indigestion, gastrodynia, and loss of appetite. The drugs may be either lessened in quantity or stopped for a time, and the medicine should always be given after meals and well diluted. After a little caution in gradually increasing the dose and dieting, the patient becomes inured to the medicine.

An erythema of the skin, that in some cases approaches an eczema, is often observed after the patient has taken the medicine for some time. In some cases it is intolerable, and the drugs have to be stopped for a time. In most cases it gradually subsides, even if the dose of the drug is not decreased. Daily immersion in **Alkaline Baths** relieves the symptoms very much, and inunctions with **Vaseline** or other simple lubricants is very useful in relieving the eczema. Loss of hair rarely occurs.

REFERENCES.—[1]"Amer. Lancet"; [2]"Pract."; [3] Ibid., Oct. 1893; [4]"Brit. Med. Journ.," Aug. 19, 1893; [5]"New York Med. Journ.," Sept. 9, 1893.

[*Editorial.*

Pastena[1] concludes that the effect of **Borax** in epilepsy is to diminish the number and also the length of the attacks in a marked degree. Epileptic vertigo is greatly benefited by its use, and in none of his cases were any digestive disturbances experienced. He employs 4 to 7 gramme doses, to which 200 grammes of water and 20 of syrup may be added.

Georges[2] reports that the long-continued use of borax may cause a peculiar disease of the gums similar to the effects of lead, and Gowers mentions diarrhœa and skin eruptions as not infrequent results.

Albertoni[3] records three cases of hystero-epilepsy in which **Duboisine** gave good results. In one of these the attacks were very frequent, marked opisthotonos was present, and the pulse was arrested during frequent convulsive attacks, being increased in frequency in the intervals. Morphine and atropine were employed with no effect, but the first injection of ·0004 gramme of duboisine was followed by a whole night's sleep, and only three attacks on the following day. Injections of ·5 milligramme were given every evening for a few days, and were followed by complete cessation of the convulsions, and under general treatment the constitutional disturbance entirely subsided.

Giovanni,[4] guided by the reported improvement of an epileptic who had undergone **Pasteur's Anti-rabic Treatment,** tested this method, and reports good effects on the second day, the improvement being steadily maintained, with prospects of a permanent cure.

Eulenburg[5] gives the preference to a mixture of the bromides in epilepsy, and considers the best combination to be 2 parts of the **Potassium Salt,** 2 of **Sodium,** and 1 of **Ammonium.** He does not believe in the idea that the higher the atomic weight of the alkali or alkaline earth forming the bromide the more powerful is its action. This is shown by one example among several. The atomic weights of potassium and calcium are almost alike, but the bromide of the latter is four times weaker than that of the former. Erlenmeyer first called attention to the advantage of administering bromides in water saturated with carbonic acid, and there is a preparation of "brom-water" distinguished by his name, and containing bromides in the proportion of 2 of potassium, 2 of sodium, and 1 of ammonium, which is an excellent and palatable form. It seems to be considered as established that the aggregate dose of the mixed bromides is much more active than the same amount of one salt, and the administration in carbonic acid water, apart from the greater stability of the solution, is more free from the risk of cumulative action or bromism. A very serviceable mode is to dispense the three bromides in powder form along with the **Carbonate of Sodium** and **Citric Acid,** so that an effervescing draught is formed on mixing with water. This has the advantage of preserving the somewhat unstable ammonium bromide. These salts ought neither to be taken undissolved in the powder or pill form, nor in concentrated solution. The latter should be freely diluted with water. With regard to the dosage, the chief point to be borne in mind is not to give less than is necessary, and therefore sufficient ought to be taken not only to lessen the number of attacks, but to produce a lasting diminution in the excitability of the nerve centres. To obtain this, the dose will vary in different individuals,

but as a rule with adults it would seldom be less than 75 grains, and rarely over 2½ drachms, *per diem.*

Voisin[6] advised that a sufficient quantity should be given to produce anæsthesia of the pharynx, but this is not always a safe criterion, as it varies in individual patients. The daily dose should not be divided into more than two or three single quantities. The time of administration will vary with the onset of the attacks. Should they be wholly by day, then two large doses, one morning and one afternoon, will answer best; while in the case of purely nocturnal seizures a large quantity late in the evening is indicated. In the others, two full doses morning and evening, or three doses, morning, afternoon, and evening, are the most useful; and in all cases shortly after a meal. The treatment should be continued for two if not three years after the occurrence of the last seizure. It ought not to be discontinued for slight symptoms of bromism; the patient ought rather to take every means to improve the general health. The question of increasing or diminishing the dose during the treatment, Eulenburg answers by saying that when the proper dose is reached it ought to be continued during the whole course, as any lessening is as a rule risky, and liable to be punished by the occurrence of an attack. There are cases where the bromides do not suit, or are not well borne, or remain quite inactive; but these are comparatively few in number. Where there is intolerance of the drug, very careful administration of small doses combined with **Iron,** or **Arsenic,** and attention to the general health, may overcome the difficulty; but where the action remains in abeyance with no effect upon the seizures, or as in rare cases, excitement is produced, the bromides ought not to be persisted in, but recourse had to other remedies.

Operative Treatment.—Tourette,[7] after calling attention to the frequency with which no lesion is found on trephining, owing to the difficulty of distinguishing hysterical epilepsy from epilepsy due to a neoplasm, states that he and M. Cathelineau have observed in M. Charcot's service that in cases of epilepsy due to a neoplasm there is always a noticeable increase of the fixed residues of urea and phosphates in the urine at the time of a paroxysm, whereas in hysterical epilepsy there is a perceptible diminution of the same elements at that time.

Jacksch,[8] of Neunkirchen, has performed **Neurotomy** on the great sympathetic, in association with ligature of the two vertebral arteries, for epilepsy which had failed to yield to ordinary medicinal treatment, and which was supposed to be due to irritation of the gastro-intestinal branches of the sympathetic nerve. In these two cases the aura

consisted of an intense constrictive pain in the epigastric region, accompanied by vomiting, and it was always noticed that with each access of an epileptic paroxysm there was a condition of cartarrh of the bowels.

Section of the sympathetic was performed at the right inferior cervical ganglion. After the operation the epileptic paroxysms completely disappeared, and the cure has been maintained during a period of a year in both cases.

REFERENCES.—[1] Pastena, "Ann. di Neurog," Fasc. 1 to iii, 1892; [2] "Medical Chronicle," April, 1893; [3] Albertoni, "Therap. Gaz.," May, 1893; [4] "Rif. Med.," July 12, 1892; [5] "Practitioner," April, 1893; [6] "Therapeutische Monatshefte," No. 11, 1892; [7] "L'Union Médicale," Jan. 5, 1893; [8] "Journ. de Méd. de Paris," May 29, 1893; "Therap. Gaz."

Synopsis.—(Vol. 1893, pp. 48 and 215.) **Strontium Bromide**, grs. 30 to 45 in three daily doses, may be substituted for the potassium salt with advantage. Mairet employs **Borax**: ℞ Borax, ʒijss; Glyc., ʒvj; Liquorice Mixture, ʒiv; or, ℞ Borax, ʒijss; Glyc., ʒvj; Strong Coffee, ʒj; Sugar of Milk, ʒijss; or, ℞ Borax, ʒijss; Glyc., ʒjss; Syrup of Bitter Orange, ʒiij; 8 to 15 grammes daily are first given, and tonics should be used at the same time, together with astringents to control the diarrhœa set up. The drug is given as far from meals as possible; if its continued use appears desirable, 15 to 30 grains are given daily. Dunn uses **Amylene Hydrate**, ʒss doses thrice daily for the first four weeks and then four times a day; it is of no use in severe forms, and has no advantage over bromides. Trowbridge and Mayberry employ **Hydrobromate of Hyoscine** and **Hydrobromate of Conine** hypodermically in the status epilepticus, the former being used in $\frac{1}{100}$ to $\frac{1}{50}$ gr. dose, and the latter in $\frac{1}{100}$ to $\frac{1}{40}$ gr. dose, this seeming to be the more efficacious, especially when combined with **Morphine**. Rohuin succesfully treated two cases by **Compressing the Carotid Artery** with the index and second finger between the larynx and sterno-mastoid muscle backwards towards the spine.

EPISTAXIS.

Citric Acid is recommended by Dr. Hunt[1] for nose-bleeding. Lemon juice is a very good form in which to administer it, and the nasal cavity should be filled with the juice or a solution of the acid.

Guenot[2] states that he has successfully employed **Antipyrin**, even in severe cases in children. If the child is old enough he directs it to inhale some of a 10 per cent. solution of antipyrin, which, for the purpose, has been poured into the palm of its hand. Usually, after some of the solution had been forcibly drawn into the nose, the epistaxis immediately ceased. Where the child is too young to carry out these directions a small syringe is used, and the solution injected into the nostrils, the child being told to keep its mouth open during the process.

[This procedure has been advised and practised by Lennox Browne for some years.—Ed.]

References.—[1] "Medical World"; [2] "Med. Press and Circular," Nov., 1892.

EPITHELIOMA (Cutaneous). *T. Colcott Fox, M.B.*

Darier after trials with chlorate of potash, resorcin, aristol, acetic acid, etc., has arrived at the following mode of treatment, which affords rapid and brilliant results: (1,) Cleanse away all crusts covering an ulcerated surface by antiseptic cataplasms of potato starch boiled with a solution of sublimate (1 in 1,000); (2,) If there exists an epidermic covering, of a prominent, thick, resistant character, touch it lightly with the galvano-cautery to allow chemical agents to act on the deep layers of the disease; (3,) Anæsthetize the growth with a 10 per cent. cocaine solution on compresses of wadding; (4,) Soak the surface with a fine brush dipped in a concentrated solution of methyl blue (1 gramme to 15 grammes each of alcohol and glycerine); (5,) Touch all parts tinted blue very lightly with a steel stylet dipped in a solution of chromic acid (to the fifth). This causes a purple colour reaction. Re-apply the methyl blue, and wash carefully to remove any excess; (6,) The surface is dressed continuously with potato starch poultices or simple sublimate compresses to prevent crusting; (7,) The above procedure is repeated four or five times at two or three days' interval, till a new dermis forms and does not absorb the colour; (8,) More formidable cases require the injection of methyl blue.

Robinson, of the New York Cancer Hospital, points out that in the simple tissue tumours the new growth when favourably situated can always be removed with certainty by excision. In cancer, however, there is no limiting membrane, no definite guide as to the extent of the infiltration beyond the tumour mass, and therefore it does not follow that carcinoma is always best treated by the knife. Robinson then discusses in detail the relative merits of operations by cutting instruments, electricity, curetting, combined curetting and caustics, and caustics alone. He proceeds to demonstrate that the use of certain caustic agents, judiciously and properly applied, is of the greatest service, and, in the majority of cases, far superior to the knife in securing their permanent removal with the least amount of deformity. Nitrate of silver, nitric, sulphuric and hydrochloric acids, acid nitrate of mercury, carbolic and acetic acids, ethylate of sodium, arsenious acid, chloride of zinc, and caustic potash are used. Robinson advises the use of **Caustic Potash** in all cases of small tumours situated upon the forehead, cheeks, lips, and some other parts of the body, but would not use it near the eye nor upon the alæ

of the nose, nor when the tumour is near an important blood vessel. In early epithelioma of the lip it is a valuable agent. The objections to it are its painfulness, and that it does not spare normal tissue. Chloride of zinc is less rapid, causes greater pain and of a more lasting character, and destroys both normal and pathological tissue. It can be used in all the cases mentioned as suitable for the use of the potash. Robinson thinks highly of **Bougard's Paste :—**

℞	Wheat Flour		Chloride of Ammonium, ℈ij
	Starch Powder, āā	℥j	Bichloride of Mercury grs. iv
	Powd. Arsenious Acid	gr. viij	Crystals of Chl. of Zinc ℥j
	Red Sulphide of Mercury	℈ij	Boiling Water ℥jss

The first six substances are finely ground and then mixed in a glass mortar. The chloride of zinc is dissolved in the boiling water and slowly added to the powder, the contents of the mortar being kept rapidly moving with the pestle, until all the solution is added ; then let it stand for about twenty-four hours and the paste is ready for use. If 10 to 20 per cent. cocaine is added, then a little more water is necessary. To be spread thickly on a piece of muslin and left upon the part about twenty-four hours.

This chloride of zinc paste is a preferable agent if the epithelioma is papillomatous, or nodular, or deeply infiltrated.

In a certain class of cases a freshly-made paste of arsenious acid (Marsden's paste) gives the best results (equal parts by weight of arsenious acid and powdered acacia, rubbed well together, with enough water added to make a butter-like paste). It may be spread on muslin or rubber plaster in a layer about a quarter of an inch thick, and firmly applied to an area *not larger at any one time than one square inch.* It is not suited to cancer of the lip or of mucous membranes. It has much more elective action on the pathological tissue than chloride of zinc or caustic potash. Its use is to be preferred in all cases where it is desirable to save as much tissue as possible.

Pyrogallic Acid (5j to ℥j of vaseline) applied continuously for two or seven days, acts somewhat like arsenic, in an elective manner, and causes little, if any, pain. Resorcin and salicylic acid (20—40 grains ad vaseline ℥j) are unreliable. Pyoktanin and fuchsin injected have been found wanting.

George Lawson points out the advantages of the **Chloride of Zinc Paste** of the Middlesex Hospital Pharmacopœia.

Dubreuilh says powerful caustics, as the sulpho-carbonic paste or Vienna paste, either destroy too much or too little, and are only suitable for small lesions or in people who are frightened of the

knife. A wide excision is the best method where possible, but on the face the effects have to be very carefully weighed. Rodent ulcer does not menace existence as a rule, and the operator may cause as much destruction of tissue in a day, as the rodent ulcer would in twenty years. In the greater number of benign cases Dubreuilh uses the curette, followed by a cauterization with trichloracetic acid or chloride of zinc. If recrudescences occur they can, as a rule, be easily controlled.

Lassar claims to have obtained remarkably good results by the internal administration of **Arsenic.**

Inglis Parsons claims that electricity is not so painful as caustics, its action can be regulated with more nicety, and the cicatrix left is better. For an ordinary case one application under an anæsthetic is sufficient, but with a large ulcer more may be necessary. Two needles are employed, with a current strength of 200 to 400 milliampères. The caustic action of both poles is freely used, and the current is constantly alternated with a hand commutator.

REFERENCES.—Darier, "Bull. Génér. de Thérap.," June 30, 1893; Robinson, "Internat. Journ. of Surgery," July, 1892, and June, 1893; Moreau, "Soc. de Biol.," June 10, 1893 (picric acid); George Lawson, "Clinical Journ.," March 22, 1893; Dubreuilh, "Archives Cliniques de Bordeaux," Nov. 1892, "Dangerfield's Thèse de Montpellier," 1892; Lassar, "Berlin. klin. Woch.," 1893, No. 23; Inglis-Parsons, "Lancet," Nov. 11, 1893.

ERYSIPELAS.

T. Colcott Fox, M.B.

The first thing to note is the continued chorus of praise in favour of **Ichthyol.** Abel finds that aqueous solutions of the ammonium and sodium preparations destroy pyogenic streptococci and the cocci of erysipelas. Juhel-Renoy paints on 10—25 per cent. ichthyol in liquid guttæ perchæ, and Hallopeau commends this plan.

The next point is the multitude of new methods which are advocated. Tison administers crystallized **Nitrate of Aconitin** dissolved in a mixture of glycerine, alcohol, and distilled water, yielding a solution possessing the same specific gravity as distilled water, 50 minims of which contain 1 milligramme ($\frac{1}{65}$ grain) of nitrate of aconitin. One milligramme may be given in twenty-four hours in divided doses, and in this way, he says, the treatment is free from risk. Rondnew paints on five times daily a 40 per cent. watery solution of liquid **Thiol,** or gives internally 10 grains of calomel followed by 10 grains of quinine night and morning with 8—15 grains of camphor in emulsion in the twenty-four hours as long as the temperature remains high. Köster paints on a moderately thick layer of **White Vaseline,** and on the face

covers this with a mask, and elsewhere with linen bandaged on. Churiloff rubs in gently for a minute twice daily 1 and 2 per cent. ointments of **Para-chloro-phenol** and **Ortho-bromo-phenol** which he and Karpoff proved to have an antiseptic value in anthrax and tetanus. Luigi d'Amore after extended experimentation in Semmola's laboratory at Naples warmly recommends the application of **Essence of Turpentine.** It causes no disagreeable complications, calms the pains and arrests and circumscribes the inflammation at once. L. Bard advocates paintings with **Guiacol** (Sciotla) in erysipelas of the face twice daily if the temperature keeps high. Le Gendre and Beaussenat get good results with cold baths as in typhoid fever. Alexander Miles paints a ring of liniodi half an inch wide and one inch beyond the erysipelatous area, and sometimes a second outpost ring. The painting is repeated for two or three days. The dried paint is covered with cotton wool and a bandage. In almost all, one or other of the rings stopped the spread of the erysipelas. Wood and Ross suggested this treatment of exciting inflammation on the supposition that the hyperæmia, which follows in the wake of the advancing micrococci, is the evidence of nature's attempt to destroy these invading organisms, and so arrest the formation of their toxines.

REFERENCES.—Schwimmer, "Wien. Med. Woch.," No. 29 and 30, 1892; Juhel-Renoy, "Rev., de Chir. et de Thérap.," May 10, 1893; Abel, "Centralb. f. Bakt.," Sept. 26, 1893, and "Brit. Med. Journ."; Thelwall Thomas, "Liverpool Med. Chir. Journ.," July, 1893; Tison, "Semaine Méd."; Rondnew, Idem; Köster, "Centralb. klin. Med.," Sept. 23, 1893, and "Brit. Med. Journ."; Churiloff, "Vratch," No. 17, quoted in "Lancet"; L. d'Amore, "Il Progresso Medico," No. 11 and 12, 1892; Hallopeau, "Progrès Méd.," No. 26, 1893; Le Gendre and Beaussenat, "Soc. Med. des Hop.," June, 1893; Gluck, "Arch. of Pediat.," Sept., 1893; Miles, "Edin. Hosp. Reports," 1893.

Synopsis.—(Vol. 1893, p. 219.) **Ichthyol** with **Vaseline**, equal parts for ordinary cases, and for more extensive ones a more dilute preparation is used. The parts are previously cleansed, and after inunction, are wrapped in a thin layer of hydrophile gauze moistened in salicylate water, this being covered with a thicker layer of non-absorbent cotton, and the dressings are changed three or four times daily until the temperature is normal. Schneider applies a 10 per cent. **Ichthyol Collodion Mixture** in a thick layer beyond the disease—he thinks collodion quite as efficacious in checking the disease without the ichthyol. Hare advises washing the skin with **Bichloride of Mercury Solution**, 1 in 10000, and then anointing with ℞ Ichthyol, ʒij; Lanolin vel Adip. Benzoat., ʒj, and protecting the part with salicylate cotton and gauze. Tison treats erysipelas by inducing vomiting and catharsis at the onset, and then giving **Aconitine**, $\frac{1}{200}$ gr. every six hours and pushing it to get its physiological effect; the part affected is washed every two hours with a saturated solution of **Camphor in Sulphuric Ether.** Talamon sprays the part with 1 per cent. **Sublimate**

Ether even to the production of vesication; the face is covered with wet **Boric Acid Compresses.** Crayot and others fail with this treatment. Trapeznikoff painted on a solution of **Carbolic Acid** in **Turpentine Oil** (3j to 3ij) every hour or half hour; this is said to cut short the disease if practised early. Wolfler adopts the mechanical treatment, applying accurately **Adhesive Plaster**, which must not be removed too early; it gives better results on the face than on the extremities, similar to the scarification treatment. Kraell uses an **Elastic Band** for constricting the limb. Lucke paints four or five times daily with **Rectified Spirits of Turpentine**, covering each time with fresh wadding. Cavazzani paints every two hours with **Tannin** and **Camphor**, of each 1 part, and **Ether**, 8 parts; he has also had good results with 1 per cent. **Alcoholic Solution of Fuchsine.** Carusi injects 1 in 1000 **Sublimate** over the diseased parts, and applies compresses of the same. Dauches gives large doses of **Sodium Salicylate.**

ERYTHEMA INDURATUM (of Bazin). *T. Colcott Fox, M.B.*

The attention of the profession in Great Britain has been recently drawn to a curious affection of the skin, occurring almost exclusively on the legs in girls and young women, especially those who stand a great deal. It is characterized by reddish or violaceous nodules in size from a pea to a nut, which arise in the hypoderm and simulate syphilitic gummata in their behaviour and course very closely. Indeed, in this country they have always been regarded by surgeons as syphilitic. They are considered to be scrofulides, but are probably not identical with the well known scrofulo-tuberculous gummata (cold abscesses). They are very chronic and troublesome to cure.

The proper treatment is careful bandaging and rest in the horizontal position. External resolvents may be judiciously used. Iodide of potassium internally aggravates them.

REFERENCES.—Crocker, "Diseases of the Skin," 2nd. Ed.; J. Hutchinson, "Archives of Surg." 1893; Colcott Fox, "Brit. Journ. of Derm.," 1893.

ERYTHROMELALGIA.

Dr. Weir-Mitchell has shown that erythromelalgia chiefly affects men, and begins usually with slight febrile symptoms, and severe pains in the feet, more rarely in the hands. It is increased by the upright position and by warmth, and is therefore worse in summer; the horizontal position and cold relieves it. After a time a congested redness of the affected parts sets in, sometimes very marked, with visible swelling of the veins, pulsation of the arteries, and increased temperature in the affected parts. The disease runs a very chronic course for many years, with alternating improvement and relapse. Its actual termination is not yet sufficiently known, as the patients have gone from under observation, and the affection is so rare that

few opportunities are given of watching the case to the end. The redness and swelling depend upon a hyperæmia from active dilatation of the blood vessels, a process depending on paralysis of the vaso-constrictor-nerves—an angioparalysis, belonging therefore to the class of vaso-motor neurosis. Anatomically it resembles chronic hyperæmia or erythema, and it is probable that these cases were classed under the term chronic local or diffuse habitual erythema. Its marked symmetry and other points suggest its central origin. It is the opposite condition to that described by Raynaud under the name of symmetrical local asphyxia of the extremities, or local gangrene, where there is ischæmia due to spasm of the vessels. This is curiously enough commoner in women than in men, the reverse of erythro-melalgia.

Treatment is unsatisfactory. **Arsenic** has been used with some benefit. **Antifebrin** relieved the pains in one case, but **Morphia** and **Antipyrin** are most useful. Duchenne treated a case successfully with **Faradisation.**

REFERENCE.—"Berlin. klin. Woch.," Nov. 7, 1892.

EXOPHTHALMIC GOITRE. *Græme M. Hammond, M.D., New York.*

Dr. W. H. Thompson[1] reports eight cases of this disease in private practice. In none of these cases had fright or any emotional disturbance been an element of the clinical history. Exophthalmia and goitre had been wholly absent in one of the eight cases. Exophthalmia alone had been absent in five cases; goitre in one case; while in another it had been only slight, and had occurred late in the disease. Both exophthalmia and goitre had been marked in only one case. In all the cases there had been pronounced tachycardia and muscular tremor. In four cases imperfect respiratory power had been noticed.

The rapid heart action and muscular tremor were the first symptoms to appear and the last to disappear, and together they constituted the most invariable elements of the disease.

He considers that a paralytic lesion involving the common nucleus of the glosso-pharyngeal vagus and spinal accessory nerves, and extending to the neighbouring vaso-motor centre in the medulla, would account for the whole group of symptoms that make up the picture of the disease.

The author relied mainly on dietetic treatment with such favourable results that he had little doubt that a specific disorder of intestinal (in distinction from gastric) digestion was the primary factor in the genesis of this affection, and that the centres in the medulla were affected reflexly. The amount of meat should be restricted, and milk—

preferably in the form of matzoon—should be substituted. Medicinally intestinal antiseptic remedies should be employed, together with the **Tincture of Strophanthus** as a vaso-motor tonic.

Dr. Seguin considers that cases of exophthalmic goitre unaccompanied by goitre or exophthalmia are very rare. In such cases he would hesitate to make the diagnosis of that disease unless the tachycardia and tremor were accompanied by the characteristic pulse, not only rapid, but possessing a quality of tension and smallness, and, unless the axillary temperature of the patient was raised from half a degree to a degree above the normal.

Dr. Sachs has found the **Rest Treatment** extremely benefical in treating this affection, the heart's action becoming better and the goitre diminishing in size. In addition to rest, he puts the patient on a light diet, principally milk and eggs.

REFERENCE.—[1] "New York Med. Journ.," March 25, 1893.

Synopsis.—(Vol. 1893, pp. 222 and 248.) Hammond strongly recommends the use of **Taylor's Respirator** to correct the deficient expansion. **Nux Vomica, Arsenic** and **Digitalis** seem the most useful drugs. Beneficial results often follow the use of **Potassium Iodide**. Trousseau's treatment during the cardiac paroxysm is by ½ to 1 gr. doses of **Digitalis Leaves** every half-hour for two or three hours, while the intensity of the attack lasts. The **Ice Bag** or a **Bladder of Ice** should be applied to the precordial region, and if not followed in three hours by amelioration, **Bleeding** may be had recourse to. Cheadle uses **Iodine Tincture** internally. **Ferruginous Preparations** may be required for the accompanying anæmia, and **Bromides** or **Extract of Valerian** for nervous symptoms. **Belladonna** is useful in some cases, and Grassett uses the **Neutral Sulphate of Atropine.** Sée uses **Veratrum Viride** in 10, 12 or 20 drop doses daily to quiet the pulse. **Hydrotherapy** is useful. The value of electricity is doubtful—the séances should extend over a month, the superior cervical sympathetic being the point of application. Others employ **Faradism** to the precordial region, the positive pole over the heart, and the negative over the first cervical vertebra. In a case showing tendency to hæmoptysis Dieulafoy gave ℞ Powdered Ipecac., gr. ½; Powdered Digitalis Leaves, gr. ½; Extract of Opium, gr. $\frac{1}{15}$. M. Sig.—To be made into 1 pill, 4 to 6 to be given in twenty-four hours. Should diarrhœa follow from the frequent use of the **Ipecacuanha**, increase the dose of **Opium.** Möbius has found most benefit from **Bromides**; **Electricity** having given some relief, and that more frequently when **Galvanism** has been adopted, although **Faradism** has proved useful.

EYE (Diseases of). *Simeon Snell, F.R.C.S., Ed.*

CATARACT EXTRACTION—WITH OR WITHOUT IRIDECTOMY.

Among the topics in ophthalmic surgery that have received discussion during the past year has been the ever recurring one of whether or not iridectomy should be performed in the extraction of cataract; whether indeed the operation shall be what is called the "simple" or

the "combined." Mr. Pridgen Teale took the abandonment of iridectomy in the extraction of hard cataract as the subject of his Bowman[1] Lecture at the Ophthalmological Society, and he gives his adhesion unreservedly to the retention of the iris intact. The operation he performs he has practised for many years. Formerly it was his habit to use a Sichel's knife, but in recent times he has operated with a much narrower one—a Sichel, in fact, with the prominent angle ground off, and consequently much more approaching a Graafe. He uses a speculum and fixation forceps. The incision is made by entering the point of the knife in the cornea just within the outer margin at its equator *(Fig. 30)*, and it emerges at a counter puncture just within the inner margin of the cornea at a level about two millimètres above the equator. This accomplished, and the point of the knife extending through the counter puncture for about four millimètres, the blade is somewhat rapidly turned forwards, and it finally cuts its way almost vertically through the cornea. An assistant controls the speculum during this last procedure. Teale thinks such an incision as he adopts advantageous for the extrusion of the lens without cutting the iris, and that the situation favours the removal of cortex. Being entirely corneal there is less risk of glaucoma and irido-cyclitis. Details, but by no means very full ones, are given of the operator's last hundred cases, and the percentage of prolapse, which by the iridectomists is urged against non-interference with the iris, is not definitely stated.

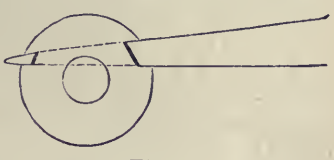


Fig. 30.

In the report of the Madras Ophthalmic Hospital for the ten years 1881 to 1891, Brigade-surgeon Lieut. Col. E. F. Drake-Brockman[2] discusses with some fulness the operations for cataract performed by him during this time. The total is five thousand four hundred and eighty-five for the various forms of cataract, and represents the work of one man for a period of something over ten years. In 1891 the average number performed in a week was twenty-five; the largest number in one day, thirty-seven, and the smallest number, thirteen. In 1891 there were no fewer than one thousand one hundred and three operations for cataract, an experience which in such a time few operators can have equalled, and fewer still have exceeded in numbers. He performs extraction without iridectomy, stating the matter thus: "My habit is, in operating, not to remove a segment of iris, unless there are distinct indications of the advantages to be gained by so doing, viz., in such cases when on account of pressure exerted by the lens the

pupil resists the influence of atropine ; or when there are evidences of posterior synechiæ, or when the ocular tension points to impending or existing glaucomatous state. I have long ago been impressed with the belief that there is less risk of iritis supervening when the iris has not been touched, and that the passage of the lens through the pupil does not bruise the iris structure and thereby set up iritic inflammation. If the pupil is dilated by atropine prior to the operation, such risk, if it exists, is removed, and in the operation which I have been performing since January, 1879, the dilatation of the pupil is always secured beforehand. Iridectomy, as a part of the operation, unless when plainly indicated, is, in my opinion, a mutilation. The removal of a lens from the eye is an operation serious enough in itself, without any further interference with the other structures of the eye ; and I am, I think, stating what is correct, when I say that the consensus of feeling among oculists is tending in favour of omitting iridectomy as a routine step in the operation for extraction of cataract. In my paper in the "Ophthalmic Review," in August, 1884, I wrote as follows : The introduction of instruments into the eye to assist in the removal of the lens exerts, I believe, a greater injurious effect by bruising the iris than the passage of the lens through a fully dilated pupil. After a further experience of upwards of seven years I have seen no reason to change my opinion on this point."

Galezowski[3], since antisepsis placed us in the possession of such means of promoting the healing of wounds, has turned back to operating for cataract without iridectomy. He does not perform a Daviel section but what he calls a semi-elliptical one, the puncture and counter puncture being placed in the opaque part of the cornea, while the apex of the section will correspond to Daviel's incision, and the knife is entered at a point between the section of Graafe and Desmares. Since 1878 when he adopted this method he has performed one thousand nine hundred and thirty-four extractions ; one thousand five hundred and ninety-nine without, and two hundred and sixty-one with iridectomy. There was discission for secondary cataract in three hundred and sixty-eight instances ; iritis, forty-one ; hernia of iris, fifteen ; phlegmon, eighteen ; and irido-choroiditis, twenty-four. He claims the following advantages : Preservation of round pupil and functions of pupil ; often he thinks the correcting glass is diminished by one or two dioptrics ; the easy expulsion of lens without fear of prolapse of vitreous ; after the completion of the section blepharostats, etc., are removed from the eye ; his operation never gives rise to hæmorrhage, except in the arthritic, gouty, or diabetic.

The difficulties and risks are mentioned as follows : In opening the

capsule, as the knife passes through the anterior chamber before making the counter puncture, there is danger of loose pieces of cortex obscuring and rendering difficult the proper execution of the counter puncture ; the iris may fall over the knife and be wounded ; the lens may not always present in the wound after what appears to be a good section ; he then enlarges the section ; the iris may be ruptured ; he pushes back the iris with a small blunt gold probe, and if it has been much bruised he performs a sphincterotomy.

W. T. Montgomery[4] prefers simple extraction in all cases of uncomplicated cases of cataract. If there is much bruising of the iris he makes an iridectomy and converts the simple into an extraction with iridectomy. The incision involves about one-third of the cornea, and is made as nearly as possible in the sclero-corneal junction.

O. D. Pomeroy[5] has recorded fifty cases of extraction without iridectomy. A rather broad Graafe knife is used, and an imaginary equilateral triangle is made with a view to the section with the base upwards. The puncture and counter puncture in the cornea correspond to the two upper angles of this triangle. The knife is entered midway in the limbus, and emerges at the counter puncture at a corresponding situation. The section terminates at the margin of sclera above, as near as possible. Invasion of the cornea favours anterior synechiæ. The capsule is ruptured with a cystotome, and the lens is delivered with two Daviel's or Bowman's spoons ; one being placed on the sclera above, and the other on the lower part of the cornea. *Débris* is got rid of by stroking the cornea until the pupil becomes black. A speculum is rarely used. After the operation a drop of eserin is inserted.

Cant[6] performs the simple operation without a speculum, washing out the lens cavity with warm water. Twenty to twenty-four hours afterwards the eye is dressed and inspected, and should any prolapse, however slight, be found, the patient is put under chloroform and the prolapse excised, and then any tendency to adhesion to the wound is freed by the spatula. The scissors are held at right angles to the wound and the iris cut at one snip. Cant says that, treated thus, the iris readily falls into its place again, while if it remains for a longer period it is much more difficult to free it, and neither does the eye bear the interference so well.

C. Higgins[7] has recorded a short paper founded upon the notes of fifty-two cases of extraction without iridectomy, and fifty-eight associated with the removal of a portion of iris. The results are given as follows : In the former series all the fifty-two were senile cataracts ; successful, forty-six ; partially successful, four ; failure, one. Of the

fifty-eight associated with iridectomy, forty were successful; partially successful, eleven; failures, two; not recorded, five. He is, however, careful to point out that those operated upon without iridectomy were picked cases; and he mentions the cases in which it may be advisable to perform one or the other operation. He says, "I do not for one moment wish to be considered an advocate for the indiscriminate performance of extraction without iridectomy; on the contrary, I am very strongly of opinion that had I operated upon the whole one hundred and ten eyes by this method, my failures would have been nearer a dozen than as they are, three only in the two series of cases. I am satisfied, however, that it should have its place in ophthalmic surgery, and be performed in suitable cases. The operation has much to recommend it, for it is very easy to perform, the injury done to the eye is very slight, healing is very rapid in the cases which do well, and the appearance of the eye is not altered. The results are as good as in the cases where iridectomy was performed, but I do not think they are any better."

Trousseau[8] employs the knife only and does the whole operation with it, rejecting absolutely fixation forceps and speculum. This he finds diminishes the discomfort to the patient, and he thinks simplicity and rapidity in execution have a good deal to do with success. He remains faithful to the simple extraction, and reserves the combined for complicated cases. He thinks the object of writers should be to direct attention to the means to avoid prolapse of the iris in the simple operation.

Valude[8] considers that the simple operation has given satisfactory results.

Kalt[8] continues to favour a preliminary iridectomy.

Freeland Fergus[9] takes the opposite view to those already mentioned. He gives his ten years' experience of cataract operations, and thinks the better results obtained now than formerly are due wholly to the greater aseptic precautions which are now observed, to some extent at least, by all ophthalmic surgeons. He objects to preliminary iridectomy, except in cases where it forms part of an artificial maturation operation, or in cases complicated with glaucoma. He endeavours to make the puncture and counter puncture in the apparent corneal margin at such a distance from what may be called the superior horizontal tangent to the cornea as will allow of a two or three millimètre flap, and still permit of his finishing the section well within the cornea. He combines iridectomy, but in eight cases he completed the operation without, and in four of these there was prolapse, an unfortunate proportion in such a small number. He uses a speculum throughout. He confines him-

self to a mere statement of his experience without any record of cases or statistics.

In contrast in these respects is the excellent paper brought before the Ophthalmological Society by Mr. Swanzy,[10] both in the practical manner in which the subject is treated, and also by the well arranged and carefully recorded series of cases by which his observations are supported. He advocates the combined method of extracting cataract, and says that he is so content with it that he has not yet been induced to abandon it, and he desires to show why his allegiance is unshaken. This he does by a record of his last one hundred cases of extraction of uncomplicated cataracts. The results obtained were ninety-five good, two medium, and three failures, these last being due to iritis. Vitreous in small quantity was lost twice; hæmorrhage, sufficient to interfere with the operation, occurred three times. The incision occupies the upper third, or a little more of the cornea. A coloboma of about 3·5 millimètres was made, and great care was taken to reduce each of the pillars into the anterior chamber completely. Prolapse occurred only once in the series recorded. He searches the wound carefully for any tags of capsule. He has not, however, noted the number of times in which a synechia between one pillar of the coloboma and cornea took place, as he regards it as an event of no importance. He quotes the three following opinions to differ from their conclusions. Hirschberg says, "If the surgeon cuts out a bit of iris corresponding to the centre of the incision, that bit of iris cannot prolapse, but a neighbouring bit can do so. I do not," he adds, "find iris-prolapse to occur more frequently without, than with iridectomy." Knapp says, "What was cut away, of course, could not fall out any more, but neighbouring portions of the iris did." Noyes says, "Cases of operation with iridectomy are accompanied by the same accident, only in them prolapse cannot affect the iris in the middle of the wound, but presents itself at the angles."

Landolt,[11] in an article of more than seventy pages, has treated exhaustively the whole matter under the title of "Cataract Extraction in our time." He shows how in the operation to be selected the personal element comes into play, "the individuality of the operator himself, his temperament, his intellectual and moral qualities, and his manual skill." Thus each may obtain excellent results by his methods, precisely because they are in conformity with his aptitude. He favours a preliminary iridectomy. "We certainly risk less by performing with vigorous antiseptic precautions an iridectomy first, then, after complete healing, the extraction, than if we make the whole attack at once, whether with or without iridectomy, upon a more or less complicated

cataract." One made at the time of extraction has inconveniences which a preliminary one has not, and he mentions among these hæmorrhage. Landolt contends for adopting a particular method to each particular case. Simple extraction would be indicated in cases of simple cataract, that is to say, cataract that is susceptible of easy elimination and is present in persons who are, moreover, healthy, docile, and reasonable. Not infrequently he thinks that in cases of impure or complicated cataract, an iridectomy is a means of facilitating the extraction, a warrant against complications in the course of the healing, and against even later ones. Iridectomy is indispensable in cases of synechiæ, as well as when the lens requires to be removed by a vectis or curette; it is required also when the conditions of cataract and eye suggest a strong cohesion between the lens and capsule, a coriaceous capsule difficult to remove, and when the patient is incapable of enduring the quiet indispensable to the prevention of prolapse of the iris. He advocates a wide iridectomy.

It will be observed that opinion is still divided as to whether or not the iris should be left intact, and opinions also are at variance as to whether or not success is better obtained with one method or the other. It would, however, appear to be fair to state that those who favour the simple operation are becoming steadily more numerous, judging from what is written, but on the other hand it should be mentioned that at the Ophthalmological Society, after the reading of Mr. Swanzy's paper, although several speakers favoured the simple operation, a rough census showed that the large majority of those present still preferred the association of an iridectomy. A reluctance is evident in some quarters to attempt an extraction without iridectomy, and the important question whether or not the pupil should be interfered with, is discussed by them without even a practical experience of the simple operation. Again, the question of prolapse is often treated in such a manner as if the combined method was an absolute bar to its occurrence. The opinions of Hirschberg, Knapp and Noyes testify that this is not the case, and it must probably be the experience of every one to have observed extractions which had been performed with iridectomy by others, but which have later come under our notice with either evidences of prolapse having occurred or of tags having been incarcerated in the angles of the wounds. Long an advocate for not mutilating the iris, my personal experience is that prolapse to any degree in the simple operation is a rare occurrence—1 per cent. in my last published series. Adhesions of a portion, sometimes a mere tag, of iris to the wound is certainly of more frequent occurrence, but if we regard them as Mr. Swanzy does—"synechia between a pillar of the

PLATE VIII.

CATARACT OPERATIONS (SNELL'S).

Fig. A.– Knife entering sclero-corneal junction, flat.

Fig. B.–Knife turned after making the counter puncture and cutting directly forwards to complete the section.

coloboma and the cornea as an event of no importance"—then whilst leaving the pupil round and intact we are not worse off respecting entanglements of the iris than with the combined method. It may further be said that most, if not all, operators performing the simple operation have had personal experience, often very large, also with extraction associated with iridectomy, and nevertheless have been led to give the preference to the former. It has never seemed to me to be a question upon which dogmatism is at all fitting. The personal element, as Landolt has pointed out, enters very largely into the matter, and there must be a question in many cases of selecting the particular operation suitable to the particular case. My experience is, however, that in those operated upon by me the number that suggest an iridectomy as requisite are very few indeed; they have become increasingly smaller in number, and now it is very rare for an iridectomy to be performed at the same time that a cataract is extracted.

I have on previous occasions [12] placed on record a description of the operation which it has been my custom to perform now for many years. I propose to give the details of it again here, especially as I have been so fortunate as to have illustrations of the various stages from instantaneous photographs (*Plates VIII & IX*) which have been taken by one of my students, Mr. Bellamy. The different steps may be mentioned as follows :—

Preliminary and Antiseptic.—The neighbourhood of the eye, face, and eyebrows, is washed with soap and water. The operation is performed with the *patient in bed.* Before performing the operation the lids are deluged with a 1 in 10,000 sublimate solution, the eyelids are separated, and the solution is allowed to run freely, squeezed from a piece of cotton wool, under the lids and over the eyeball.

Cocaine.—A 3 per cent. solution, freshly prepared either with some sublimate solution or distilled water, is used. A *fresh solution with clean drop bottle is always insisted upon.* Care is taken to keep the cornea at first covered by the lid to prevent it drying, which is observed, if exposed, after the instillation of cocaine. It is dropped into both eyes.

Fixation.—Neither speculum nor forceps are used. With the patient lying flat in bed the operator stands behind, and with the fore and middle fingers of the right or left hand, according as it is the right or left eye which is to be operated upon, gently draws up the superior lid (*Plate VIII, Fig. A*). This being done the middle finger is allowed to descend somewhat, until by gentle pressure on the inner side of the sclerotic it steadies the globe. At the same time an assistant draws

down the lower lid and fixes it against the malar bone. Occasionally this assistance has been dispensed with, by spreading open the lids with one hand and making the section with the other.

The Section.—It is corneal and downwards ; a Graafe knife is employed. The left hand is used for the left eye and the right for the right ; thus the operator is always standing behind the patient. The section is made below, and the knife pierces the sclero-corneal junction just below the centre of the pupil. It is entered flat (*Plate VIII, Fig. A*), or nearly so, and the counter puncture is made by the knife emerging at a point on the inner side corresponding to the puncture. This having been completed, the knife is carried a little way downwards and then turned directly forwards (*Plate VIII, Fig. B*), and the section finished by cutting directly through the cornea. The summit of the flap will thus lie about the middle or a little below the centre of the space between the pupillary edge and the lower corneal border. The mode of cutting through the cornea allows the edges of the section to come directly together, but as the wound is not a sloping one through the corneal tissues, there is not one portion superimposed upon the other.

Capsule and Delivery of Lens.—The capsule is torn through with a pricker (*Plate IX, Fig. C*), and the cataract is delivered by pressure partly exerted by the fingers through the upper eyelid, but in part also by the vulcanite curette placed on the sclerotic below (*Plate IX, Fig. D*). Cortex, as far as possible, is encouraged to follow the lens, and any that may remain is got rid of by gentle massage through the lids—"lid manœuvre,"—a little time being allowed to elapse, if necessary, for accumulation of aqueous to reveal any portions otherwise likely to escape observation. The iris, which often during this process has been in the wound, if it does not retire by its own contraction is gently replaced by the curette. There is in my practice no difficulty about the return of the iris and the preservation of a round pupil quite free from the wound. The curette is passed along the edges of the wound to free it from tags of capsule or portions of *débris*.

Care is now taken to get rid of any portions of cortical matter which may be about the eyelids or the lower *cul-de-sac*. This is done by pieces of cotton wool soaked in the sublimate solution, and some of this is also squeezed under the lower eyelids.

Iridectomy.—The iris is left intact. Except for the presence of adhesions of pupil or other complications, no iridectomy is performed, and the percentage in which the iris is interfered with is thus a very small one.

CATARACT OPERATIONS (SNELL'S).

Fig. C.—Tearing through the Lens capsule with the pricker.

Fig. D.—Delivery of Cataract.

After-dressing.—On completion of the operation the patient is requested to gently close the eyelids as in sleep, and then a piece of plaster shaped like the engraving (*Fig.* 31), which is drawn to half scale, is spread over the upper and lower eyelids. The kind used is thin silk, diaphanous, isinglass plaster, salicylated, and I always employ that made by Seabury & Johnson. The photograph (*Fig.* 32) shows the appearance after application of the plaster to a patient who has undergone operation.

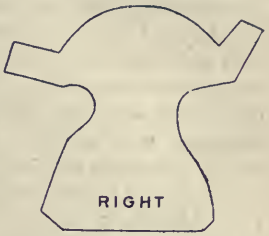


Fig. 31.—Shape of Plaster.

I began the use of plaster instead of bandages in the summer of 1886,[13] and must since then have used it in between four hundred and five hundred extractions, besides in other cataract cases, as well as iridectomies and other operations. My experience is so satisfactory, that it is hardly likely I shall at any time return to the other modes of

Fig 32.

dressing which have been in vogue. The plaster, applied as the photograph shows, allows one to have a very good idea as to how matters are progressing ; any swelling of lids or discharge is at once evident. Whilst securely fastening the eyelids it exherts no pressure, and tears find a ready exit. The plaster is so cut that eserin or atropin may be employed by instilling the drops without disturbance of the dressing at the inner canthus ; and both here and at the outer side drainage

can readily take place. If every thing is doing well the plaster is not changed for four or five days. Both eyes have been closed, and at this time to all appearance there is often nothing to indicate which is the eye that has undergone operation. The plaster is removed by moistening with sublimate or boric water, and is thus easily taken off without disturbance to the eye. The sound eye is set at liberty, but the plaster is replaced over the eye which has undergone operation, and finally dispensed with generally by the eighth or ninth day. The patient leaves his bed on the third or fourth day.

The patient is not placed in a darkened room, but a screen is used to shut off direct light.

It should be said, that at the operation all the instruments are just dipped (not allowed to remain) in sublimate solution. Special attention is bestowed upon the knife to see that its polish is perfect; it is passed through the sublimate solution, or sometimes it is dipped into alcohol. The operator and assistant are particularly careful as to the cleanliness of their hands before commencing the operation.

On other occasions I have recorded series of cases treated by the operation above described; at one time a series of one hundred and twenty-one, and at another three hundred and one, and I hope before long to publish another record of about three hundred. I avoid therefore entering into the results now.

The situation of the section, and the avoidance of a shelving incision through the corneal tissue, are in my opinion important matters in the prevention of prolapse of iris. The early period after the operation that some surgeons inspect the eye, and frequently repeat these examinations, is, it appears to me, favourable to the production of prolapse of iris, by disturbing the wound before proper union can have taken place.

REFERENCES.—[1]"Transact. Ophthal. Society," 1893; [2]"Review of the Ophthalmic Hospital, Madras," from April 1, 1881, to December 31, 1891; [3]"Recueil D'Ophthalmologie," May, 1893; [4]"Journ. Amer. Med. Association," April 22, 1893; [5]"New York Med. Journ.," Nov. 12, 1892 ("Therap. Gaz.," Jan. 1, 1893); [6]"Prov. Med. Journ.," Sept. 1892; [7]"Lancet," Nov. 11, 1893; [8]"Bulletin de la Clinique Nationale Ophthalmologique," de L'Hospice des Quinze-Vingts, 1892; [9]"Brit. Med. Journ.," May 13, 1893; [10]"Transact. Ophthal. Society", 1893; [11]"Ophthalmic Record," Oct. and Nov., 1892; [12]"Brit. Med. Journ.," vol. i, 1883; Ibid., vol. ii, 1889; [13]"Lancet," vol. ii, 1886.

ANTISEPTICS.

Antiseptics are generally used in eye operations, but a consideration of those employed by the different surgeons whose opinions have just been recorded shows that there is some diversity of opinion as to which is the best agent to adopt. Teale uses carbolic acid of a little more

than ½ per cent. strength. Brockman employs a saturated solution of boric acid. Free ablutions are made with it; it is used for the cocaine and atropine solutions; the instruments are washed in it; and before applying the bandages, after the operation is over, finely powdered iodoform is dusted into the palpebral fissure.

Montgomery immerses the instruments, except the cataract knife, into boiling water for a few minutes. The knife is dipped into alcohol and wiped with a soft bit of linen. The closed eye is sponged with saturated boric acid solution; he does not put the solution into the eye, as he considers the healthy secretions are the best antiseptics.

Pomeroy uses bichloride of mercury, 1 to 10,000, for bathing the eye freely before the operation, and he employs it with some freedom during the operation. The instruments are immersed in boiling water. Afterwards the eye is thoroughly irrigated with the bichloride solution.

Fergus says that his instruments are made wholly of metal, and they are immersed in carbolic acid solution. They are then placed in a metallic case, and again immersed immediately before using. The patient's face is washed with perchloride of mercury, and the conjunctival sac is drenched with it; after the completion of the operation boracic acid is employed.

Swanzy washes the face with hot water and soap. When ready for operation, and cocaine has been inserted, he washes and wipes out the conjunctival sac with lint soaked in sublimate lotion, 1 in 10,000. Special attention is given to the inner canthus, the outsides of lids, and especially eyelashes. The lotion is used all through the operation. The instruments are boiled a few minutes before operation, and are then laid in a solution of hydronaphthol from which they are taken for use. The blade of knife is plunged into boiling water for a minute or two. The eye drops are made with the sublimate solution.

Bronner[1] employs a sterilizing apparatus.

Priestley Smith[2] has pointed out that if a knife was placed in water which was just beginning to boil its edge was soon spoiled; if placed in water which boiled for some minutes less mischief was done; if in distilled water which had boiled for some minutes the result was better still. But no prolonged immersion in boiling water seemed quite safe.

Chibret[3] advises the employment of cyanide of mercury as an antiseptic. The instruments may be immersed for ten minutes in a solution of 1 in 100, but they should then be bathed in a solution of 1 in 1500 to avoid any irritating action of the salt. Local antisepsis is done with a solution of same strength as this last, added to 1 in 7000

of chloride of sodium. After extraction of cataract he irrigates the anterior chamber with a tepid solution made as follows : cyanide of mercury 0·5 ; sodium chloride ·7 ; distilled water 1000, and a few particles of picric acid added for coloration.

Valude[4] urges the value of formic aldehyde as an ocular antiseptic. It is a colourless liquid, very miscible in water, is not poisonous, and its antiseptic properties are, he says, remarkable.

Vignes[5] has adopted the plan of having solutions used as eye applications sterilized, and a small quantity placed in a little tube drawn out and sealed by means of a flame. All that is required is to break off the end of the little tube and drop the contents upon the surface of the eye. Atropine and cocaine solutions so preserved showed no alteration for weeks at a time. Eserine should be kept in yellow and red tubes.

Stephenson[6] has advocated the use of Stroschein's bottles, which admit of sterilizing the contained fluids by the application of heat. The heat required is said not to impair the physiological properties of the medicament used. The bottles are four in number, and are coloured differently, and the name of the drug they are intended to contain is etched on the bottle.

My own practice for solutions is to have them freshly made for *all* operative cases.

REFERENCES.—[1] "Transact. Ophthal. Society," 1893 ; [2] "Ibid. ; [3] "Recueil D'Ophthalmologie," 1892 ; [4] "Revue Général. D'Ophthal.," July, 1893 ; [5] "Annales D'Oculistique," March, 1893 ; [6] "Transact. Ophthal. Society," 1893.

NÆVUS.

Instances of nævus of the surface of the eyeball are not by any means commonly met with, and such cases as are here illustrated are rare. In one case the plica semilunaris was involved, and in the other two the conjunctiva. Both cases were related before the Ophthalmological Society by the writer, and illustrations appear in the "Transactions," but those produced here are from separate drawings from the water colour sketches taken from the patients.

The first (*Plate X, Fig. E*) was a girl aged twenty, the subject of nævus of the lip (left), inside of the mouth, and involving also the palate. She had been born with it on her lip. For this she had undergone successful treatment. The appearances in the eye only came on two years before she came under observation. The nævus in the plica was about the size of a small bean ; it projected somewhat between the eyelids ; the caruncle was not affected beyond that some enlarged vessels coursed over it. The tumour

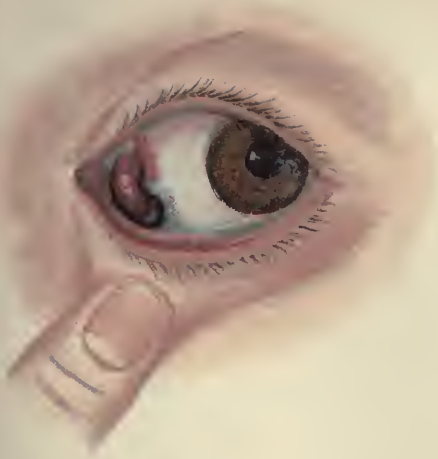


Fig. E.
Nævus of Plica Semilunaris.

Fig. F.
Nævus of Conjunctiva.

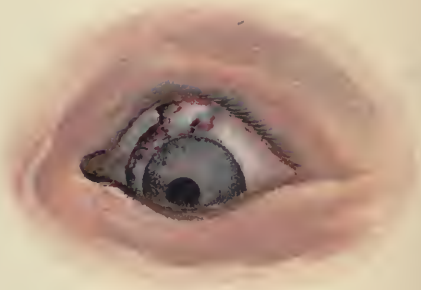


Fig. G.
Nævus of Conjunctiva.

A. C. S del.

was painted with ethylate of sodium with marked success; indeed it disappeared.

The second (*Plate X, Fig. F*) was a baby, aged four and a half months. The conjunctiva was involved by a series of nævoid vessels on the upper and inner side; associated with this was a nævus in orbit at upper and inner angle. The conjunctival nævus was treated with ethylate of sodium with good effects; not only was the conjunctival part greatly benefited, but the orbital nævus also decidedly improved.

A third case (*Plate X, Fig. G*) was a woman, aged thirty, with a history of injury—a poke with a pointer in early childhood. The present tumour had existed for a long period, but it was uncertain if it had got worse lately. Above the cornea, involving and really under the conjunctiva, was a rounded nodulated tumour like a blackberry in size, colour and form. It was of a dull livid colour, brighter at parts. It was dissected out; it was found to consist of angeiomatous tissue with a good deal of fibrous; two small calcareous nodules were discovered in it.

Synchronous Movements of the Upper Eyelids and Lower Jaw.

The first instance to be recorded of this curious condition was that by Gunn[1]. The case was also shown before the Ophthalmological Society in 1883. Since then several others have been met with at the hands of different observers in all parts. Swanzy in the last edition of his Text Book puts the number of recorded cases at fifteen, but there have been more since then, and several of these are mentioned in the article[2] in which the case, which recently came under my own observation, was recorded.

The patient was a youth, aged seventeen, a labourer. His attention was drawn to the condition by a friend, and he is not himself conscious of any movements except from seeing them in the looking glass. There is no reason to doubt that the condition is congenital. There has been no similar eye trouble in any member of his family. There has been no alteration since the state of the eyes was first noticed, and his condition may be summed up as follows:—

There is slight ptosis of the left side. It is sufficient to be noticed on looking direct at the patient (*Plate XI, Fig. H*). The left upper lid comes distinctly over the edge of the pupil; on the right it covers none of it. The curious point to note, however, is that the movements of the left upper eyelid are associated with the motions of the lower jaw. Thus on moving the jaw to the right

(*Plate XI, Fig. 1*), and using the left external pterygoid, the left eyelid is distinctly jerked upwards, to as much as from an eighth to a quarter of an inch, and it drops again as soon as the jaw is brought back again to the left. On opening the mouth the same thing happens; on closing it the lid drops. In ordinary talking the movement is not noticed. On protruding the jaw, the same phenomena occur. The action of the upper eyelid is most marked, however, on turning the eyes downwards, and then while they are thus directed, moving the jaw to the right; the left upper eyelid is seen then to be very distinctly drawn up and it exposes the white sclerotic above the cornea, the right lid meanwhile remaining quite steadily covering its eyeball. When the eyelid is thus upraised, and the other (right) is still further lowered over the eye by casting the gaze more downwards, it (the left eyelid) makes no attempt at following the movement of its fellow, but remains fixedly drawn up.

The ocular movements are good, and there is no history of diplopia at any time. The left pupil is somewhat smaller than the right; the former in medium illumination measuring 5mm., and the latter 6mm.; the reflexes to light and accommodation are good.

Another point to notice is that there is a want of symmetry between the two sides of the face; the left strikes one easily as being the smaller of the two; but there is no deformity besides this. On measuring the left upper eyelid it is found also to measure nearly a quarter of an inch less across than the right.

Vision is normal in both eyes. There is no increased perspiration of the face.

Among recent recorded instances of these peculiarly associated movements may be mentioned one by Ole Bull.[3] In this the left side was affected; the ptosis was marked and covered three-fourths of the cornea, and the superior rectus on the affected side was paretic. Ole Bull[4] had a few years before recorded a case very much like this one. The ocular movements were free in all directions except upwards. The right was the side affected. Vision on this side was $\frac{5}{60}$; left $\frac{5}{18}$. There was nothing abnormal found with the ophthalmoscope. The eyelid could be voluntarily raised when the unaffected eye was closed.

Hubbell[5] has also related the case of a boy, aged seven, with "symmetrical and well developed head and face." The right eye was closed from birth, except with movements of the jaw. "When the mouth is closed the right eyelids are also closed, and there is not the slightest movement of the upper lid when the eyes are ordinarily opened"; "when, however, the mouth is opened, the right upper eyelid is involuntarily and unconsciously raised at once." The eye cannot

SYNCHRONOUS MOVEMENT OF UPPER EYELID AND LOWER JAW.

Fig. II.—Showing Ptosis when jaw is at rest.

Fig. I.—Showing elevation of left upper eyelid when jaw is depressed and turned to right.

be turned upwards beyond the median plane, nor inwards, but little beyond the vertical plane, the superior rectus and inner rectus being thus paretic; the pupil and fundus were normal in all respects. The right eye was, however, amblyopic, and fingers only were counted at four feet; the left was normal. Three excellent illustrations are given with this case.

Dr. Sinclair[6] has also recorded three cases occurring at the Birmingham Eye Hospital. One was a girl, aged seven, who came "complaining of drooping of the left upper eyelid, and uncontrollable movement thereof when eating." The other instances were in males, aged thirty-four and twenty-two; in one the ptosis was slight, and in the other marked; in both the left eye was affected.

Mr. W. M. Beaumont,[7] of Bath, has related a case of associated movements of the upper eyelid and the lower jaw. The patient was a child, aged two years and two months, suffering from congenital ptosis and epicanthus of both eyes. There was no visible action of the levators, and the upper and lower eyelids were separated from each other by a mere chink; the corneæ could be scarcely seen. When the child attempted to use the eyes he invariably opened his mouth, producing a well-marked idiotic expression. A plastic operation was performed, which neutralized in a great measure the ptosis, and the child no longer went about with his mouth open.

The last case, it will be seen, differs a good deal in many points from others discussed. It appears that in most of the cases on record it has been the left side which has been affected; that there has been congenital ptosis as well, and in a few cases paresis of the upper rectus. Gunn's case and mine agree in the want of symmetry of face, and in the different sizes of the two pupils. Generally, the opinion expressed by the committee on Gunn's case has been accepted as explaining the phenomena, which was briefly this: "The simplest explanation is that the levator is innervated from the nucleus of the third nerve, and from the external pterygoid portion of the nucleus of the fifth nerve. Thus we can understand both the action of the elevator on association with the external pterygoid, and the lower position of the eyelid at rest and on movement of the eye. The fact that the elevator does not relax perfectly when the eyelids are closed, may perhaps be accounted for by its partial innervation from the fifth nucleus."

REFERENCES.—[1] "Trans. Ophthalmological Society," p. 263, 1883; [2] "Sheffield (Quarterly) Med. Journ.," July, 1893; [3] "Archives of Ophthalmology," p. 354, 1892; [4] Ibid., p. 144, 1888; [5] Ibid., p. 65, January, 1893; [6] "Ophthalmic Review," p. 65, January, 1893; [7] "Lancet," April 15, 1893.

Movements of the Upper Eyelids associated with Lateral Movements of the Eyeball.

While the class of cases alluded to in the previous section has been receiving attention, these somewhat different associated movements have also had some notice bestowed upon them.

Friedenwald,[1] of Baltimore, has recorded two instances. The right eye, he says, in a girl of eleven appeared normal, but the left was smaller and lay deeper in the orbit. The ophthalmoscope disclosed nothing abnormal. Vision corrected with a +0·5D cyl. for right eye was $\frac{8}{8}$; for left, $\frac{8}{18}$; not improved with glasses. It was found that movements of the left, toward the nose, were constricted, but that there was almost complete paralysis of the external rectus muscle. In testing these movements the synchronous motions of the upper lid attracted attention. When the eye was directed directly forwards, the left palpebral fissure was 2—3 mm. narrower than the right. On looking to the left, the left upper eyelid was raised so much that the palpebral fissure was as large as on the right side. If the eyes were turned to the right, the left palpebral fissure was very narrow. The difference in the fissure in the two extremes was very great. Binocular vision was present. The condition was congenital.

He relates a second case in a girl, aged seventeen years. She had paralysis of the left external rectus. On looking straight forwards, the left eye was slightly wider open than the right. The right palpebral fissure did not vary during the movements of the eyeball, but the left changed considerably. When the eyes were moved to the right or were converged (adduction of the left eye), the upper lid fell about 2 mm., so that the pupil was half covered, and the fissure was much smaller than on the right side. On moving to the left (the left cannot pass the median line), the left palpebral fissure became so wide that 1 mm. of sclerotic was bared above the cornea. This was also believed to be congenital.

He quotes cases which have been recorded by Fuchs, and points out that they differ very much from his cases. In one, for instance, there was no ocular paralysis, and though palsy of internal rectus and ptosis were present, in two it appeared to have occurred in adult life, and was not congenital. Fuchs reported altogether five cases; only one was congenital.

Sidney Phillips[2] has recorded associated lid movements with those of the eyeball in two brothers, aged seven and three. The condition was congenital, but no ocular palsy is mentioned. When the patient looked outwards, either to the right or left, the upper lid of the other

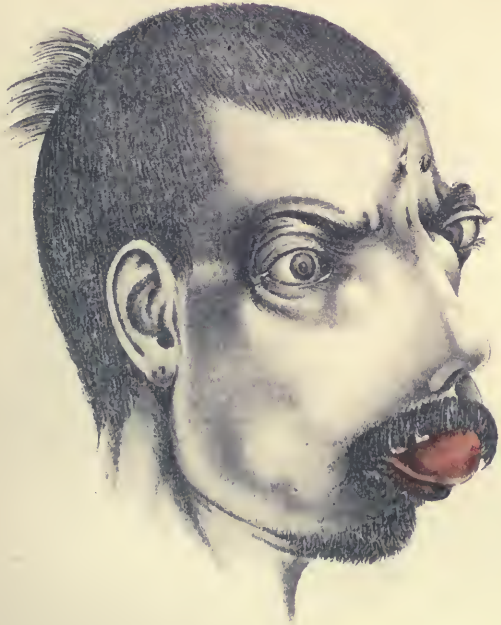


Fig. K.

Fig. L.

Double Proptosis.

side simultaneously drooped, so as to produce a nearly complete ptosis, while the upper lid on the side towards which the patient directed his eyes remained raised.

Browning[3] has also related a case in a man. If he looked outwards to the right or to the left, the upper lid of the same side simultaneously drooped, whilst the other was somewhat elevated. If he converged to a near point, *e.g.*, the tip of his nose, both upper lids were simultaneously raised above the horizontal meridian; the left rather more than the right.

Friedenwald agrees with Fuchs that the associated movements belong to the same category as those involuntary movements which occur in paralyses of the extremities. The excessive nerve energy which is applied to the paralyzed nerve overflows into another channel. Fuchs calls attention to the fact that this must occur in the nuclear centres of the ocular nerves, for if it occurred in the higher centres the impulse would be directed to both eyes.

REFERENCES.—[1]"Archives of Ophthalmology," Knapp and Schweigger, July, 1893; [2]"Trans. Ophthalmological Society," 1887; [3]Ibid., 1890.

TUMOURS INVOLVING BOTH ORBITS.

The two accompanying drawings (*Plate XII, Figs. K, L*) were exhibited by Brigade-Surgeon Lieut.-Colonel E. F. Drake-Brockman[1] at the annual meeting of the British Medical Association at Newcastle in August, 1893, but have not previously been published. They represent the extreme effects produced on the contiguous structures by a growth taking origin in the body of the sphenoid bone. The paper read on that occasion gave the histories of three cases of double proptosis which came under his care in the East Indies, two being in Natives of India and the third in a European.

The drawings were taken of the case which occurred in the person of a Hindu aged thirty-five years. The growth was slow, and was under observation for many months. It involved the buccal and nasal cavities and the pharynx at first, and subsequently extended its processes into the orbital cavities. The nasal bones, superior maxillæ and frontal bones became involved at a later date; both eyes were projected forwards and outwards, and the corneæ were destroyed. Mastication and deglutition became interfered with, and the patient died from exhaustion. The growth was found *post-mortem* to be sarcomatous, and to have sprung from the sphenoid bone. The resemblance to a naso-pharyngeal tumour was very close, but there was no hæmorrhage (which is constantly present in polypoid growths) at any time in the course of the disease.

The other two cases recorded by the same author are somewhat similar.

The facial disfigurement was not so great in the latter two cases as in the first, which is represented in the drawings.

A case of rapidly growing sarcoma involving both orbits and occurring in a boy aged four, was reported to the Ophthalmological Society this year by the writer. It had followed immediately an attack of mumps, and he had also been struck over the left eyebrow by a pump handle, though the injury was thought to have been slight.

Hewetson,[2] of York, has recorded a very interesting example due to trauma. A boy aged five was struck on the left side of the head with a brick in the temporal region. The swelling thus occasioned never subsided, but a tumour developed which measured as much as eighteen inches round the base.

Mr. Treacher Collins[3] has also recently recorded a case in which a tumour was found in each orbit.

In this connection may be mentioned a very interesting and valuable paper by Dock[4] entitled "Chloroma and its relation to Leukæmia." He records a case, a lad aged fifteen, in which the eyes were both prominent; the lids could not easily be closed. Above the bulbs hard masses could be felt through the eyelids. There were also symmetrical swellings in both temporal regions. The diagnosis of leukæmia in connection with the above conditions was made, not only from the characters of the blood, but from other symptoms as well, viz., pallor, dyspnœa, hæmorrhages, tachycardia, gastric disturbance, and eye (retinal) changes. The orbital cavity was found filled with a *greenish* mass, and its characters closely resembled those of lymph gland.

Dock also reports all the similar cases (seventeen) which have been published.

The writer[5] also during this year has recorded an instance of simultaneous and symmetrical tumours of the lachrymal and parotid glands, which, therefore, comes under the heading of tumours involving both orbits. The patient, a woman aged sixty, came under observation in October, 1884, and the condition then present is shown in the illustration (*Fig.* 33) from a photograph taken at the time. In each orbit, but larger in the right, was a lobulated tumour in the situation at the outer and upper angle of the lachrymal gland. They were both closely attached and reached down under cover of the external wall of the orbit, and could be seen under the conjunctiva, and formed noticeable tumours in the eyelids, as will be seen in the illustration. There was also enough swelling of the parotids to give an enlarged appearance to the face. She died in

August, 1889, from exhaustion. The orbital tumours had gradually become very much larger. The left became the bigger, being as large as a small teacup, and reaching to the temple and down the face; the right was also very large. The right side of the face became ulcerated, and a hole was made in the cheek. The face on the sides got very large (parotids). The lumps in the orbits nearly closed the eyes and prevented her seeing. It should have been mentioned that the submaxillary and sublingual glands were also affected. For some time, however, before her decease she had not been under observation.

A noteworthy feature in the case was the dryness of tongue and mouth.

An epitome of recorded cases, few in number altogether, is given with the particulars of this case.

Dr. Sandford[6] relates the case of a man, aged fifty-six, with enlargement of both lachrymal glands, causing closure of the palpebral apertures. He mentions that the lymphatic glands of the left temporal region were greatly enlarged, as were also the parotid and submaxillary glands in each side. The enlarged lachrymal glands were removed, and the structure found to be that of an adenoma.

Fig. 33.

REFERENCES.—[1] "Brit. Med. Journ.," Sept. 30, 1893, Ibid., Oct. 20, 1893, also "Lancet," Oct. 20, 1893; [2] "Lancet," June 17, 1893; [3] "Royal London Ophthalmic Hospital Reports," 1891; [4] "Amer. Journ. of Med. Sciences"; [5] "Lancet," July 1, 1893; [6] "Trans. Ophthalmolog. Society," 1893.

ELECTRIC OPHTHALMIA.

Several articles on this subject have been written from time to time, and cases have been recorded among others, besides those to be named further on, by Rockliffe,[1] Little[2], and Emrys Jones.[3] Hewetson[4] has during this year met with and published some interesting cases occasioned by the process known as electric welding. He was summoned in the night to a party of engineers who had during the day at Birmingham been taking part in some electrical experiments.

Three were affected, and the symptoms in each were the same, though varying in severity.

One case, for instance, was found with great pain in eyes and head, and entire inability to open the eyes. On the lids being forcibly opened the conjunctiva was found injected, pupils contracted and apparently fixed. This condition had been going on for some hours, and cold had failed to afford relief. Cocaine after a time seemed to give some ease, and in three hours he fell asleep and slept for several hours. When he awoke pain had gone, conjunctival injection had disappeared, and there was no photophobia. Vision was perfect, and pupils and tension were normal. The ophthalmoscope showed nothing abnormal in fundus.

The next case was much less acute, and the third was midway between the two in severity.

An interesting point about these cases is the time that elapsed before the onset of the symptoms after the exposure to the electric light ; this is, however, quite in accordance with the experience which will be now given.

Electric welding is a process which must in the near future apparently be extensively used. It is at the present time employed a good deal in Sheffield, and it may be of interest to give a brief account of what was learnt by the writer from personally inspecting the process at work. First of all I should, however, say, that an instance less severe than Hewetson's first case came under my observation in the person of a science teacher, who was demonstrating this process, I believe, to his class. The process which I had the opportunity of witnessing was the Benardo. The heat produced by this method is so intense that the metal runs at once almost like solder. All who witness the welding use large protectors consisting of glass made up of four thicknesses, alternately blue and red, inserted in a large frame. The shields are so powerful that on looking through the glass into a melting furnace the light appears dim and but little perceptible. It is not difficult to find among those who are about the place some who have suffered from exposure to the light. One man had just been "caught" by the light as he passed, and one arm was blistered like sun-burn ; another managing a different electric part of the firm's business, and a gentleman who had visited other works than these, though aware of the essential need for protection, had been "caught" and suffered from mild attacks in their eyes.

I will, however, give the account as I have taken it from the man who has experience in actually performing the welding. He has been engaged with this process for about twelve months, but it is not used

every day. He is protected by a helmet covering his face and head. It consists of a wooden box open above, with a window in front for him to look through (*Fig.* 34). The glass in this window consists of six layers alternately blue and red. This man has suffered on four occasions from the effect of the light on his eyes. On the first two occasions the attacks were confined to one eye ; once the right and once the left. The eyes do not become affected immediately, but the attack only makes its appearance some hours after. Generally it comes on in the night after he has been in bed. He describes it as commencing as if a blister was in the eye at one small spot, but this sore feeling soon spreads over the

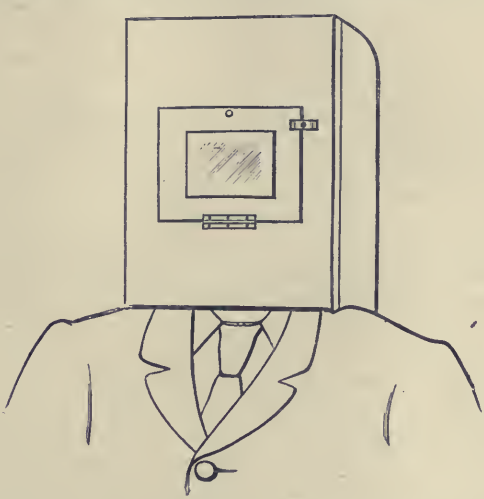


Fig. 34.

whole surface. The eye feels swollen, and as if filled with burning sand. The pain is very severe, or, as he calls it, "very cruel." There is considerable lachrymation, and "until you get accustomed to know what is the matter the eye seems very bad." The eye becomes closed, and it is impossible to open it. His first attack commenced at about 10. 30 or 11 p.m., and he could not sleep on account of the severe pain until five. The next day the eye would still remain inflamed, but the pain would be gone. The following day it would be well in all respects. The pain in the second attack was about the same, but the third and fourth were less severe. On the last occasion, he had been using only a hand screen and not his helmet. This latter gives him complete protection. His face has been scorched once and his arms

blistered, but after this he took care to keep them covered. The heat does not appear to radiate much ; and the iron bar which he holds in his hand when welding does not at the end he grasps get hot. His arms have had red blotches on them ; these extend and run into larger ones, and finally the whole arm becomes a dull red. In the course of a day or two the skin dries and turns white, and then peels off. His neck used to suffer until he wrapped it up. He says a glance at the light is sufficient to produce the effect on the eyes.

My experience was that with the glass protectors provided, one could watch the process with impunity. The only thing observed after witnessing the process for some time, was that for a long period after on that day the eyes felt rather dry perhaps, but nothing more.

Terrier,[5] Maklakoff,[6] and Wildmark[7] have published some interesting observations which may be referred to now. As may be gathered from what has been said, the attacks vary much in severity ; some are very mild and some are very severe. Maklakoff tried the effect of exposure on himself to ascertain the best means of protection for the workpeople. Like the workmen, he used reddish green spectacles so thick that they only just allowed the sun's disc to be seen. He was exposed to the light for an hour and a half, and towards the evening of the same day suffered from chemosis of the eyelids, with a burning and painful sensation in the eyes which was not relieved by cocaine. The exposed parts of the skin were very red, œdematous and hyperæsthetic desquamation followed, and though this was only slight there was considerable pigmentation which lasted for weeks.

The question as to whether it is the heat rays or chemical rays that occasion the mischief would appear to be set at rest by the experiments, especially of Wildmark. Maklakoff too asserts that though the light is so dazzling yet a thermometer placed at one mètre distant is only raised two degrees, and it is of course well known that the electric light is very poor in thermic rays.

Wildmark has made the following interesting experiments. When a screen having a round hole 2·5 mm. was placed before the eye of a rabbit so that the light fell only on the pupil and not on the rest of the eye, no irritation beyond a slight corneal haze corresponding to the area of the pupil was observed. When, however, the pupil was screened and the rest of the eye exposed to the light the usual effects followed. Rock crystal and glass are very nearly alike in their powers of transmitting light and heat rays; but are yet very different in their action on the chemical rays. Glass absorbs them, whilst crystal allows them to pass. He used this difference to show the dependence of the ophthalmia on the chemical rays.

In a later paper dealing with the effect of light on the skin he has also utilised rock crystal and glass. If a pencil of light before reaching the skin was made to pass through a disc of glass in the centre of which was a hole filled with a small disc of rock crystal, the redness of the skin was observed only in the central area, a clear proof of its dependence on the chemical rays.

Drs. Blacker and Clarke's[8] recent article on "Light as a Therapeutic Agent," possesses some interest on this topic.

REFERENCES.—[1]"Ophthalmic Review," vol. i ; [2]Ibid., vol. ii. ; [3]Ibid., vol. iii ; [4]"British Med. Journ.," June 24, 1893 ; [5]"Ophthalmic Review," vol. viii., p. 137 ; [6]Ibid., vol. viii., p. 137 ; [7]Ibid., vol. viii., p. 172 ; [8]"Practitioner," 1892.

HYPOPYON ULCER OF THE CORNEA.

Fukala[1] has devised what he calls a new method for treating abscess of the cornea. He adopts means which are calculated to change the abscess into an open ulceration. This he accomplishes by seizing the superficial portions of the lesion with iris forceps, and cutting them off by scissors. Sometimes the scissors alone are sufficient. By this means the necrotic tissue is removed, and the open wound is sprinkled with sublimate solution, atropine instilled, and a compressive bandage applied. The wound speedily, it is alleged, cicatrizes by granulation.

This method differs only in a measure from other means, such as scraping, which in some hands has found favour. And it is further quite as likely to leave a dense scar, or more so, as the application of the actual cautery. This latter is in my experience an excellent and most valuable adjunct to our armamentarium. Not only is it of the greatest service in the case of ulcers which are associated with pus in the anterior chamber and in which it may be advisable at the same time that the ulcer is cauterized to perforate the aqueous chamber, but in much milder instances, and often in tedious or intractable forms of corneal ulceration.

The little platinum cautery which I use is here figured. I have now employed it for many years, and have on other occasions brought it under the notice of the profession. It is readily heated in the flame of a spirit lamp, and is thus much more handy, and quite as useful as a galvano-cautery. Its action can be regulated and limited, and, generally speaking, the ulcer should just be lightly touched. unless it is an extensive one.

Fig. 35.

An important point about hypopyon ulcers is to examine the condition of the lachrymal apparatus ; frequently there is dacryo-cystitis present. This condition will require treatment.

Barton Pitts[2] thinks the actual cautery the safest and surest of all agents in the treatment of corneal ulcers. Even in superficial phlyctenular ulcers he prefers to use it, and in deep ulcerations involving the substance of the tissues, and likewise, he says, in extensive sloughs of the cornea it is to be depended upon.

Bourgeois[3] recommends that in extensive ulcers with abundant hypopyon, as well as inflammation of the lachrymal sac, the following line may be adopted with advantage : (1,) Irrigation of the lachrymal ducts with sublimate solution, 1 to 1,000 ; and of the *cul-de-sac* and nasal fossa with boro-borax ; (2,) Evacuation of the hypopyon, and drainage of the anterior chamber by means of a sterilized Florentine horse-hair, or a paracentesis ; (3,) Occlusive and antiseptic dressings.

Wecker[4] has treated for some time ulcers and abscess of the cornea by curetting and antiseptic irrigation. He uses a similar curette to Critchett's, but smaller with sharp edges. The operation is done under a spray of 4 per cent. of boracic acid.

REFERENCES.—[1]"Therap. Gaz.," Jan., 1893 ; [2] "Annals of Ophthalmology and Otology," Jan. 1893 ; [3]" Revue Générale D'Ophth.," 1892 ; [4]"Annales D'Oculistique," July, 1893.

LUPUS.

The case which the coloured drawing illustrates (*Plate XIII*) occurred in a youth (G. S.) aged twenty. Extensive destruction, as a result of lupus, is, of course, by no means uncommon, and my friends interested in dermatology tell me that so wide-spread an affection is familiar to them, but that the destruction of the eyes makes it one of ophthalmological interest. It would appear that generally when implicating the conjunctiva, either separately from, or in conjunction with that of the lids occurs, it usually stops short of the degree it has assumed in this instance.

The disease apparently commenced, when he was about five years of age, with a small nodule on the cheek, and has steadily progressed up to the present time. The disease is just now (June, 1892) stationary. It is of very great extent, but is chiefly located upon the face. In the neck, however, on each side, but especially the left, are marks of the disease. From the extremity of the chin to the top of the forehead, and from the tragus of the left ear to the outer part of the right malar bone, the whole surface of the face is covered by scarred or ulcerated surfaces. The tragus of

Fig. M.

Destruction of left Globe, and partially of right, by Lupus.

left ear has almost disappeared, and the nasal cartilages are quite destroyed, the nose being represented by an oval aperture surrounded by a quantity of dense scar tissue. The mouth also has been greatly reduced in size, and it does not admit of voluntary enlargement. The lips are scarred, and the central teeth are always exposed. The sight of the left eye is entirely destroyed. The edges, and indeed most of the eyelids, have been destroyed. No remnant of conjunctiva is visible, and the surface of the eyelids and the integument are directly continuous with the cornea, which appears like a circle of ground glass set in the skin, scarred as it is. This sort of setting gives it a curious appearance, because there can be, of course, no attempt to close it. The circle of tissue resembles the cornea only in shape ; it has more of a bluish tinge than ground glass correctly suggests. A fistulous opening from the lachrymal gland has formed at the outer angle of the orbit, and tears escape through it upon the face. The right eye is much less affected, but changes are taking place which will before long produce a similar condition to that in the left. Both the lids are ulcerated, and destruction is taking place which will lead to the adhesion of the integument at the corneal border as in the left eye. Now the cornea is not altogether clouded over, so he is able just to see a glimmer to guide himself by. The disease here is progressive.

Application of the actual cautery and of methyl violet appeared for a short time to arrest the disease, but it was merely temporary, and when he was last seen it was rapidly becoming as bad on this side as on the left. The left eye had been affected for about eleven months.

Chisolm[1] some years ago put on record a case in which both eyes were destroyed in a manner very similar to what has been the case in the left in this case of mine, but in addition the nasal apertures were entirely closed, and the mouth was reduced to a smaller orifice, it would seem, than has here been the case.

REFERENCE.—[1] "Archiv. of Ophthalmology," 1882.

GRAFTS OF SKIN AND MUCOUS MEMBRANE IN THE TREATMENT OF AFFECTIONS OF THE EYE AND LIDS.

Thiersch's plan of using skin flaps has found wide applicability in surgery. Woodruff[1] has advocated its use for deformities of eyelashes or lids. For the former he splits the border of the lid, filling the gap with a graft, and this method has the effect generally of turning out the edge of the lid and keeping the eyelashes away from the cornea. He says that as skin is not mucous membrane and never becomes so, it will sometimes keep up irritation of the cornea even when no hairs are on its surface. It is important in selecting the piece of skin for a

graft to find a portion devoid of hairs. Mucous membrane is, of course, unirritating, and he gets his graft from the lower lip.

An extensive ectropion of the lower lid was treated by a skin graft. An incision was made parallel to the border of the lower lid and the upper flap drawn up. The space to be filled was about 30 mm. long and 18 mm. wide. The flap for this purpose was taken from the inner side of the arm, and was about 6 mm. larger in all directions than the space to be filled. It was kept in warm boric lotion until hæmorrhage had ceased, and it was fixed in its situation by six sutures. The result was satistactory. The graft shrunk somewhat, but there was no return of the ectropion.

Theobald[2] has reported two successful cases in which this method was adopted on the eyelid.

Hotz[3] has also advocated this method for the treatment of pterygium. He dissects the pterygium back to the caruncle, and fills the denuded area on the sclera by a graft. This he has shaved from the inside of the patient's arm, and has then transferred the graft from the razor to the raw surface on the sclerotic. He has done this in three cases, but his first case taught him in the later ones to make the flap smaller than the place to be filled. Of his first graft he says that at first it had a pink colour, but after the second week it was white, being covered with epidermoidal cells which could be easily scraped off. Nine months after it had become smooth and shining, and only a little higher than the ocular conjunctiva. It had shrunk a little, but it made a bar to the conjunctiva ever again being drawn on to the conjunctiva.

I have in my practice at different times made use of flaps taken from the mucous membrane of the lower lip. I have adopted this method in several cases of symblepharon with great advantage, and in another case in which contraction was going on in a socket, and so preventing the wearing of an artificial eye, this procedure rendered great service. Small skin flaps I have also used on the surface of the globe. I wish, however, to say a few words as to the treatment of ectropion by flaps. The transplantation of thin non-pedicled flaps has in my hands been in many cases very successful. The proceeding which has been followed will be indicated by the brief account of the case which will be mentioned. The photographs also show the boy before and after the operation, but in addition I have introduced another which exhibits the case some time after the operation was performed, but with the temporary union between the eyelids still existing. The formation of this temporary anchyloblepharon I look upon as an important aid to success in these cases. It is allowed to continue for some months after the operation has been performed, and the band is readily severed by

a cut with scissors, and the lids properly restored. I do not think the value of making a temporary adhesion between the eyelids, in these cases of deformity has been recognized, as it deserves to be.

Fig. 36.

Charles E., the boy represented in the photographs, was a very strumous lad. His neck was not only scarred, but was filled with enlarged glands. He had had abscesses about one of the feet, the result of a kick, and this had for two years confined him to bed. Two years before coming to me abscesses came behind and around the left ear, and also on the same side above the eye. As a consequence of this the left eyelid had become turned inside out (*Fig.* 36), and the edge of the lid was bound to the margin of the orbit at the upper and outer part by a depressed cicatrix, evidently the seat of an old sinus. He could not close the eye, and the exposed conjunctiva was greatly swollen and thickened, and the cornea at its upper part had suffered severely from ulceration.

Fig. 37.

The condition was rectified as follows: The attachment to the upper margin of orbit was divided, and dissection carried on until the eyelid was able to fall readily into its proper place. Next, the edges of the eyelids at the middle were vivified and joined together by sutures, and the palpebral fissure was also shortened by paring the edges at the outer commissure and uniting by stitches. A flap of skin was then taken from the inside of the upper arm, and after its under surface was denuded of

fat and subcutaneous tissue, it was inserted on the raw surface of the lid. It measured one and a quarter inches long by three-quarters of an inch wide, and it was found to readily fit the position on the eyelid. It was retained by six fine sutures. On the fifth day the stitches uniting the external commissure gave way and detached a portion of the flap which sloughed. Otherwise the success was excellent. The photograph (*Fig.* 37), with the temporary union between the eyelids, was taken some weeks after the operation; the other one (*Fig.* 38) after this adhesion had been divided, and shows the final result some months later.

Fig. 38.

A point about these flaps may be mentioned. If a flap sloughs immediately, no good results; but if the perishing of the transplanted flap takes place more slowly, it appears to me that sufficient is often left to set up foci for cell growth, and to aid in the process of "skinning" over the part, nor does this cicatricial coating show much sign of contracting. I have noticed this more than once, and the value of the temporary union between the lids is especially illustrated in such a case where the flap has apparently perished.

REFERENCES.—[1] "Annals of Ophthal. and Otology.," July, 1893 ("Therap. Gaz.," Oct. 6, 1803); [2] "Trans. Amer. Ophthalmol. Soc.," 1891; [3] "Journ. of the Amer. Med. Assoc.," Sept. 10, 1892.

EYE (Lupus of the). (See "Eye.")

EYE AND LIDS (Skin-grafting in Affections of the). (See "Eye.")

EYELIDS AND EYEBALL (Associated Movements of.) (See "Eye.")

EYELIDS AND JAW (Synchronous Movements of.) (See "Eye.")

FEVER (Intermittent). (See "Malaria.")

FEVERS AND ERUPTIONS. (See also "Enteric Fever," "Malaria," "Typhoid," and "Typhus Fevers.") *John Strahan, M.D., M.Ch.*

Dr. Greenwood[1] says of thirty-five cases certified as scarlatina, six had nothing the matter, one mumps, one typhoid, one sore throat, one erythema of buttocks, ten out of thirty-eight wrongly diagnosed.

It is therefore hardly necessary to apologise for enumerating a few of the mistakes that may arise in the diagnosis of various skin conditions depending on febrile or non-febrile causes. When we proceed to diagnose any case it is usually done by an unconscious process of exclusion. That is, we pass in mental review a certain number of possible disorders, dismissing one by one till we are reduced to one or two when the diagnosis usually settles itself in the mind. Where men make an error in diagnosis usually it is not from want of knowledge, but from want of imagination; that is, they fail to pass a sufficiently large number of possible conditions before the mental vision, and thus the real disorder is omitted from the first, although it would probably have been at once recognized had it been included in the list under consideration.

The multitudinous forms of erythema and the immense number of causes that may produce an extensive red rash with more or less fever, should be carefully studied. This question is just now engaging the attention of dermatologists. Kaposi divides these cases into the "acute contagious exudative dermatoses, represented by measles, scarlatina, rötheln, and small-pox," and the "acute non-contagious, inflammatory dermatoses." In the last group the dermatitis begins by disorder of vascular tonicity. It is an angio-neurosis, as Eulenberg and Landois term it. The erythemas can closely simulate the eruptive fevers as to the rash, the fever, and even the affections of mucous membranes. Besnier has called them "pseudo-exanthems," and divides them into rubeoloids and scarlatinoids, which simulate the eruptive fevers throughout their course. They are acute and febrile. His second class is the scarlatiniform erythemas, an important class not yet properly studied. They are febrile at the outset, but inclined to be sub-acute and apt to last longer than the fevers they simulate. They arise from infectious diseases, such as puerperal cases, surgical septicæmia, gonorrhœa. Such rashes explain many supposed cases of scarlatina after confinement, surgical operations, etc. They may be primary from unknown causes, or due to secondary toxæmia, or to drugs or articles of food, and may appear *before* or during many acute diseases, as typhoid, puerperal fever, cholera, infectious endocarditis, osteomyelitis, syphilis, gonorrhœa, lymphadenoma, leprosy, vaccination, septicæmia.[2] A common form of erythema—urticaria—often assumes the acute febrile type, and gives much trouble in diagnosis. It is often assumed that lobster and shell fish are the only causes. Besides these many other forms of fish (and especially if undergoing any form of chemical change), mushrooms, strawberries, preserved salmon, cucumbers, vinegar, honey, walnuts, game, pickles, sausages,

spices, etc., may originate it. Then various skin diseases may act as exciting causes, so that scabies pediculosis, prurigo, and eczema often become complicated with urticaria. It may also be due to the local action of mustard, turpentine, the nettle, etc. Nor is it by any means confined to children. It is often due to deranged digestive organs without the use of any special article of food, or the deranged digestion causes a special article to prove an irritant, which on another occasion would be perfectly innocuous. Again, gastric disturbance will often produce fever without any rash, and so cause trouble in diagnosis. Irritation of some mucous surface, as by worms, uterine or menstrual disorder, pregnancy, etc., is a common cause. Some cases of acute febrile urticaria are the more likely to be mistaken for exanthems on account of marked redness and swelling of fauces and pharynx. A severe shock to the nervous system may cause urticaria, but it may also occur without obvious cause. Attacks have followed dentition, passage of gall-stones, puncture of hydatids, application of leeches to os uteri, menstrual irregularities, abortion, and asthma. It is apt to complicate jaundice, diabetes, Bright's disease, ague, rheumatism, and typhoid.

Urticaria and the various forms of erythema are very often produced by drugs, as has been impressed on us of late by the great development of aniline products in medicine. Probably most practitioners have seen the scarlatiniform erythema, or perhaps measles-like rashes produced by antipyrin, exalgin, phenacetin, kairin, thallin. Bromide rash has been mistaken for both small and large pox. Many drugs produce rashes sadly puzzling to the practitioner except he keep the possibility of a rash being due to drugs before his mind.

Besides the familiar instances of bromides, iodides, and aniline derivatives producing rashes, we have occasional rashes from many drugs which usually do not cause any eruption. Thus, turpentine and all essential oils occasionally act like copaiba, which I have known to cause a rubeoloid rash, mistaken by an hospital physician for typhus, until a curious student ascertained the fact that the patient's breath smelt strongly of copaiba. This physician knew as much of typhus as most men, but his mind simply failed to think of copaiba, and so he decided that the most likely disease was typhus, judging by the high temperature, the nature of the rash, and the condition of the tongue, which was bad enough for the first week of typhus. Capsicum, santonin, chloral, opium, morphine, salicylic acid and its compounds, iodoform, belladonna, atropine, quinine, tar, carbolic acid, resin, arsenic, cannabis indica, digitalis, mercury, sulphur, and even rhubarb, may so cover a face with scabs as to puzzle the wisest. We have no

space to give details here, but such may be had in the June No. of the "Dublin Journ. of Med. Science," 1893, or still better from the article on drug eruptions by Dr. Prince, in the latest volume of the Translations of the New Sydenham Society. No doubt we are still far from the end of knowledge as to eruptions from drugs, ptomaines, and other poisons in the blood. Most men know that the internal use of arsenic can cause herpes zoster. Some most puzzling cases of rash from iodides are described by Dr. Norman Walker, in the "Lancet" for March 12, 1892, p. 571. Uræmia occasionally gives rise to various rashes. Here we see the analogy with drug rashes. In uræmia the kidney fails to get rid of some poison which acts just like many drugs on certain systems. At the London Clinical Society, Nov. 13, 1891, Dr. Le Cronier gave notes of eight such cases. Such rashes in uræmia are of evil omen. In seven out of the eight, death occurred within five weeks.[3] Again, as uræmia may give rise to sudden elevations of temperature, it is desirable that the urine should be examined before a diagnosis is made in cases of fever. It may be said that the albuminuria which would be found might pass as ordinary albuminuria due to the febrile state. But an examination of the urine should never stop with mere testing for albumin and sugar. At least, the quantity passed should be roughly ascertained and the Sp. G. taken. The latter does not occupy a moment, yet the information often afforded may be priceless. How different the urine of a severe uræmic state, such as usually develops fever, from the concentrated urine of an ordinary febrile attack. In the case of the uræmia the Sp. G. will nearly certainly be below 1012. In the case of a febrile attack the Sp. G. will be high. In fact, where we find the Sp. G. under 1012 except temporarily through excess of drinking, there is nearly sure to be disease of the kidney. For details as to febrile uræmia, see article by M. Huchard, in the "Revue de Med.," Feb., 1892, p. 163, and the "Practitioner," May 18, 1892, p. 371.

Roseola, or rose rash, is a disease which seems specially got up to plague the young practitioner. How often is it mistaken for scarlatina, and *vice versâ*? Red rashes of various kinds are frequently diagnosed as roseola, or else as rötheln. Roseola is common, caused by gastric catarrh or disturbance of the general health. It is distinguished from scarlatina and measles by its wanting crescentic arrangement of spots seen in measles, the dark red spots on the hard and soft palate so often seen in measles before the rash on the skin. The constitutional symptoms in measles and scarlatina are usually more severe. Roseola is of a deep rose colour, and not *scarlet*, like scarlatina, nor can it be resolved into the innumerable red points that the scarlatina rash can.

Roseola patches are not so uniform or diffused as those of scarlatina. Roseola is often preceded by sore throat, but catarrhal symptoms are so common in children that they often coincide with an attack of roseola, so that the latter often closely imitates measles—or still more, rötheln. What occasions still more confusion is that roseola is liable to precede the true rash in many diseases. Thus it may precede small-pox by a couple of days when the patient is in high fever. Can error be avoided in such a state of affairs? Roseola may also precede scarlatina, measles, cholera, modified small-pox, typhoid, syphilis, diphtheria, malaria, and may precede or follow the pock in vaccination. As the fever of these diseases is often present before the true rash appears, error cannot be avoided in many cases. I have known the leading consultant in a large city to pronounce the case of a young lady to be small-pox, although there was no such disease in the city, and although he was aware she had not been out of doors for two months, and had been intemperate all that time. Next day rash and fever had gone. It was one of the curious forms of tropho-neurosis due to the action of alcohol on the vessels of the skin. Fortunately in small-pox, as well as after parturition and surgical operations, and in cholera, the rose rash, however copious it may be, has its characteristic seat in the lower half of the abdomen, and the anterior and inner aspect of the thighs. It may appear elsewhere in such cases, but, as a rule, it is confined to the lower half of the body. This should put us on our guard. It is part of a strange and interesting subject into which we cannot here enter to say that, in general, the skin affected by this preliminary rash remains entirely free from the after coming small-pox. In the same way Neumann[4] says: "Syphilitic eruptions of the macular, papular, and squamous varieties disappear during the variolous process, as in all specific fevers. Syphilitic ulcers become unclean and covered with a thick yellow exudation; around and upon the broad condylomata small-pox pustules accumulate in great numbers. When the variolous process has exhausted itself, the former symptoms of syphilis re-appear, but in a milder form. He argues from this that vaccination is not likely to aid syphilis in appearing. Another strange fact is that small-pox tends to become confluent on parts where either an acute or a chronic inflammatory process already exists. A severe form of confluent small-pox is frequently associated with eczema, and if the eczema is extensive, life is much endangered. An accumulation of small-pox pustules also occurs on parts—the seat of psoriasis, scabies, or other skin disease. Prurigo and ichthyosis are often cured by small-pox.

Diagnosis of Roseola.—No special prodromes, as in eruptive fevers,

neither *marked* sore throat, nor catarrhal symptoms, nor does rash come out after a definite period, nor first in a definite locality. Fever is not so marked, of such duration, nor in proportion to rash. Temperature is rarely above 101° F., usually 100° F. (scarlatina often 105° F., measles 104° or 105° F.). Fever only lasts a few hours until eruption occurs, while that of scarlatina lasts twenty-four hours, and measles seventy-two before true rash is seen. In reosola the rash is neither crescentic, like measles, nor punctiform, like scarlatina. The eruptive fevers may not present these characters, but then the duration of prodromata and other symptoms should guide us.

Diagnosis of Rötheln.—The prodromal fever is wanting or brief, rarely lasting over a day. This prevents confusion with measles, in which three days is the rule. Rötheln appears as small, circular patches, and points of a rose colour, which may appear first on the back, but generally on the face and neck, extending more or less over the body in twenty-four hours, fading and disappearing in two to four days. Itching is often present and may be severe. Rash differs from measles in being smaller, less papular, spots being round instead of oval, not arranged in crescents. Increase of temperature in eruptive stage is slight or absent, *differing thus even from mild measles.* As regards scarlatina, the temperature is quite different in rötheln. Rötheln is essentially epidemic, sporadic cases being very rare. It affects children chiefly, most cases between two to ten, but may occur up to forty.

See also author's paper on "Simple Fevers and Eruptions liable to be mistaken for Infectious ones," in the "Dublin Journal of Medical Science," for June, 1893.

REFERENCES.—[1] "Brit. Med. Journ.," Oct. 22, 1892; [2] Kaposi's Lectures, 2nd French Edition. by Besnier & Doyon, 1891; Ohmann-Dumesnil, "Journ. of Cut. & Gen. Urin. Dis.," Aug., 1890; Stirling, "Austral. Med. Gaz.," April, 1891; [3] "Lancet," Nov. 21, 1891, p. 1169; [4] "Pullar's Trans.," p. 89.

Synopsis.—(Vol. 1893, pp. 25, 32, 39 and 44.) **Euphorin**, 1·20 grammes taken in four to five doses, is useful in surgical fever and acute rheumatism. **Ledum Palustre**, 5 to 20 minim doses, used in Russia for intermittent fever. **Oxygen Inhalation**, recommended in extreme exhaustion of last stages of continued fevers. **Phenocoll Hydrochlorate** gave good results in malarial fever, 1 gramme being given in powder or solution from five to seven hours before the attack; also used in hectic by Connheim, the dose varying between 4 and 15 grains.

FILARIASIS (or Filariosis). *T. Colcott Fox, M.B.*

Some interesting papers and letters will be found in the "Lancet" in the latter part of the year 1892 and beginning of 1893, dealing with the subject of the treatment of filariasis by various parasiticides and

especially **Thymol**, which has earned a good reputation in anchylostomiasis. A. Crombie, stimulated by the favourable experience of E. Lawrie and Walsh in chyluria, gave a young man 5 grains of thymol twice daily, and rapidly increased the dose so that sixteen days later 200 grains were being exhibited daily. Another patient worked up to 15 grains four times a day. In neither case did the filariæ disappear from the blood. Crombie's experience was confirmed by Patrick Manson in the case of a negro harbouring both species of African filariæ (diurna and perstans).

Manson points out that the filaria starts the disease process, in the case of chyluria, by causing stenosis of the thoracic duct, but the obstruction once produced cannot be removed by parasiticides any more than a urethral stricture can be relieved by the ordinary remedies for gonorrhœa. It is indeed best to protect the parent worm and not worry her into abortion. The proper treatment of the chyluria is rest, elevation, lowering of the tension in the lymphatic vessels by the use of saline purgatives, limited and appropriate food, abstinence from fluids as much as possible.

Lawrie found that his cases remained permanently free from filariæ, and quotes a further successful case by Hehir. He doubts if stricture of the thoracic duct be the constant cause of chyluria. Wallace Corbett also, though confirming Manson's experience of the inefficacy of thymol and other anthelmintics and parasiticides, criticizes Manson's stricture theory. Lastly, Manson again reported a failure to destroy the filaria nocturna after a long course of thymol.

E. S. Jackson, at a meeting of the Queensland Medical Association, stated that no internal treatment seemed to have any curative effect, a position also taken up by Moty.

REFERENCE.—"Rev. de Chir.," Jan., 1892.

Synopsis.—(Vol. 1893, p. 228.) **Thymol**, 1 grain every four hours in one case, and in another 2 grains increased to 5 grains thrice daily, was followed by a cure, but in other cases 200 grains daily have proved ineffective. Creasote, benzol, guaiacol and gallic acid have given no results. **Extirpation of the Lymphatic Glands** containing the female worm is most effective where practicable.

FLAT FOOT.

Clay describes the treatment of flat-foot under six heads : (1,) Massage with lin. saponis ; (2,) Bathing with sea-salt ; (3,) Exercise ; (4,) Manipulation ; (5,) Tenotomy ; (6,) Use of special boots. Speaking generally, he says that in early cases 1, 2 and 3, are all that will be required. In more advanced cases—but still uncomplicated by rigidity—boots will be required in addition to the foregoing ; and finally, in rigid cases the whole of the above must be considered as

necessary adjuncts to effect a cure. Under the heading of *Exercise*, the following hints are given: "Extension and flexion of the ankle, but especially adduction or inversion of the foot when the inward turn is impeded by the surgeon resisting. Then three or four times a day patients should be instructed to walk bare-foot (or in the stocking-feet) on their toes many times backwards and forwards across the room. This should be done deliberately, and care taken not to get the instep too vertical, as in this position the weight of the body is supported more by the bones than muscles. Walking must be enforced, the boots being constructed on anatomical principles; and care should be taken that the toes are kept quite in front of the patient, and fairly big strides taken."

REFERENCE.—"Birm. Med. Review," June, 1893.

FOOT (Morton's Affection of).

Dr. Dane says that this consists in a tenderness of the sole, usually most marked opposite the space between the distal ends of the third and fourth metacarpal bones. In walking there are often referred sensations along the corresponding toes. If walking is persisted in, soreness often ensues, which finally may give rise to dull pain throughout the whole leg. It is worse in wet and cold weather. The treatment consists in protecting the tender point, either by putting a thin but stiff leather inside-sole into a broad shoe, with a hole cut of appropriate size and shape, or else by making a depression at this point in the sole of the shoe. This can be done by having the last made with a projection on it at the proper place. He has found it very important to make the hole in the inner sole of oblong shape, the long axis (which should be an inch or an inch and a half in length) running parallel with the metatarsal bone. He finds the proper place to make the opening by putting aniline ink over the tenderest spot on the sole of the foot, and then letting the patient put his naked foot into the shoe containing the inner-sole, which has been moistened with water so as to absorb the stain. Of course, there is some smearing, but the most anterior point is obtained in this way. After a time, the leather of the boot-sole is pressed up into the hole in the inner sole, and then it may be necessary to renew the boot or shave off the elevation.

REFERENCE.—Dane, "Boston Med. and Surg. Jour.," September 1, 1892.

FRACTURES.

Treves[1] describes a method of treating compound fractures, which, from tables given, appears to have been, in his hands, extremely satisfactory. On admission the limb is covered with lint soaked in carbolic

lotion, and is then cleaned with the greatest care ; protruding bone is replaced, loose or damaged bone is removed, and the broken ends are adjusted as soon as possible : (1,) Ordinary well padded wooden splints are used, but under no circumstances is the limb secured to them by strapping. Instead of plaster he uses fine webbing and buckles. No bandages are ever applied ; (2,) The limb is kept throughout in the open air ; (3,) The wound itself is covered by a heap of antiseptic powder—iodoform or creolin, preferably the latter. This covering of powder keeps out bacteria without hindering the free escape of discharges, which form with the protecting powder a harmless scab or crust. The advantages claimed are : (1,) Simplicity ; (2,) Avoidance of "meddling" ; (3,) The damaged part is open to view.

Prof. M'Leod[2] concludes : (1,) That fracture of the upper end of the ulna with dislocation of the radial head is by no means infrequent ; (2,) That it is generally due to direct violence, the point of application and degree of violence determining whether one or both of the injuries result ; (3,) That the deformity is characteristic, the upper fragments of the ulna being pushed or pulled forward and outward, causing angularity of the shaft and some bulging at its upper end, and the head of the radius lying in front of the external condyle of the humerus and giving rise to some abnormal fulness there ; (4,) That the characteristic displacement of the upper fragment of the ulna is due to the effect of the violence, and to traction exercised by the oblique and orbicular ligaments and the supinator brevis muscle ; (5,) That when the displacement of the radius is not detected and remedied, the ulna undergoes union in its distorted state and the limb loses considerably in efficiency as regards both movement and power.

From these considerations the author strongly insists upon the following practical precepts :—

(1,) Whenever we find a fracture of the upper end of the ulna, examination should be very carefully made for a dislocation of the head of the radius.

(2,) Should such a dislocation be found, it must be reduced at once and endeavours made at the same time to rectify the displacement of the upper ulnar fragment.

(3,) In view of the clinical fact that it is sometimes found very difficult to retain the head of the radius in position after reduction, examination of the part must be made from time to time in order to be sure that the head of the bone is in its proper place.

Bungner[3] treats fractures of the clavicle as follows : Take a piece of calico bandage two feet long and an inch and a half broad. Stitch to its centre a piece, forty-five inches long and five broad, at right

angles; then two other pieces of the same length and width close to the first, but somewhat obliquely. Now, pass the first round the sound shoulder and stitch its overlapping ends as the *point d'appui*. Pass the middle band over the back under the axilla on the injured side, and over the arm back again—which draws the arm back—and fasten it. Carry the lower tail, also, across the back and around the arm close to the elbow—which it pulls backwards and upwards—and fasten it. The third passes over the sound shoulder, across the chest, and under the hand and elbow on the opposite side to form a sling, and is stitched behind to its companions. The arrangement is said to be comfortable, efficient, and not to slip out of place.

Keetley[4] describes an operation for the prevention of shortening and other forms of mal-union after fracture, especially oblique fracture of the long bones. It essentially consisted in the insertion of two pins of steel, thickly plated with silver, one into each fragment of the bone, not too near the fracture. Each pin has an arm at right angles to it. These two arms, lying outside the skin, are lashed together with silver wire after the fracture has been accurately adjusted. No incision is made, each pin being passed in through a simple puncture. The bones are perforated for the pins by means of a long brad-awl.

In one case treated in this way the pins were left *in situ* for six weeks. The operation should not be resorted to for ten days or a fortnight after fracture. Thus the surgeon will be allowed to see what results ordinary modes of treatment are likely to give, and there will be time for effused blood to be either absorbed or organized.

REFERENCES.—[1] "Annals of Surgery," vol. xvii., No. 2, Feb., 1893; [2] "Lancet," June 18, 1892; [3] "Deutsch. med. Woch.; [4] "Lancet," No. 3625, 1893; "Therap. Gaz.," May 15, 1893.

FRACTURES OF THE LOWER EXTREMITIES.

W. Arbuthnot Lane, F.R.C.S.

It is curious that, for such a number of years, surgeons have thought fit to put up fractures of the lower extremity in splints with foot-pieces so placed in a vertical transverse plane that the inner margin of the foot, when attached to it, is vertical. Nothing can, in my opinion, be more unscientific or fallacious.

If one lies on one's back in an attitude of rest, the thighs roll outwards and the hip-joints occupy the position of rest for this posture. It is, like all postures of rest, one in which the limb is retained in that position by ligamentous structures—in this case chiefly by the capsule of the hip-joint, no active contraction of muscles existing. It comes about very simply, since the weight of the leg bears such a relation to the hip-joint that when the muscles, by their active contraction, cease

to retain the extended limb in any position, it at once rolls outwards until the movement of outward rotation is stopped, chiefly by the strain exerted by the oblique fibres of the capsule of the hip-joint. The amount of rotation is such that the inner margins of the feet include between them an angle of about 90°, and if the pelvis be horizontally placed, each margin forms with the vertical an angle of 45°.

We now pass on to observe *experimentally*, in the case of a solution of continuity of the segments of the leg, the results of placing the lower segment of the leg in a position of inward rotation through an angle of 45° while the upper segment is in the position of rest already described.

First, let us strip the muscles from the vicinity of the hip-joint posteriorly, and remove that portion of the capsule which covers in the back of this articulation. By means of a broad chisel or narrow saw divide the neck of the femur freely beneath the head in the position where intra-capsular fracture so readily takes place in old people because of the changes that the structure of this portion of the bone undergoes in old age. If the thigh be left in the position of outward rotation into which it falls, the cut surfaces remain in apposition, or the lower fragment of the neck presses forwards and slightly upwards against the front of the capsule, the variation depending on the amount of destruction of bone in making the section—the more the destruction, the greater the rotation outwards. It is easy to see that this forward and upward displacement would be exaggerated in the living subject if the leg were allowed to rotate outwards, owing partly to the temporary active contraction of the muscles set up in the vicinity of the fracture, so that the diaphysial extremity of the neck is carried upwards and forwards away from the head, and comes into relation with the bone below the anterior inferior spinous process of the ilium.

If the thigh be rotated inwards till the inner margin of the foot becomes vertical, the lower fragment falls back upon the bone behind the acetabulum and ceases to have any direct relationship with the head. In the living body this backward displacement would be associated with an upward one due to the temporary active contraction of the surrounding muscles.

Take another body, and by means of a saw or chisel, divide the shaft of the femur more or less obliquely, and fixing the upper fragment in the position of rest, rotate the lower segment of the limb inwards, through an angle of 45°, and you will observe that the rotation produces a separation of the cut surfaces of bone and a consequent shortening of the limb due to the winding up and alteration in the direction of the muscles surrounding the broken bone. This shorten-

ing of the muscles would in a recent fracture be much increased by hæmorrhage into and beneath the muscles. In the living subject this shortening is exaggerated by the temporary active contraction of the surrounding muscles, which is set up by the presence of the fracture.

That shortening is not a necessary accompaniment of an oblique fracture of the femur, is shown in Gowan's method of oblique section for knock-knee, where great care is taken that one segment of the femur is not rotated upon the other, around a more or less vertical axis.

It is obvious that the lower the position of the fracture in the shaft of the femur, the greater the certainty of the upper fragment rotating outwards till it reaches the position of rest.

Again, excise the knee-joint and, fixing the thigh in a position of rest, rotate the leg and foot inwards till the inner margin of the foot becomes vertical, and then compare the relation to one other of the axes of the long bones of the leg, and you see at once that the relation on the side operated on is quite abnormal, and that it corresponds to the extent of the inward rotation of the lower segment.

Passing on to the leg below the knee, divide the tibia and fibula obliquely at the same or different levels, and retaining the thigh in a position of rest, rotate the foot and lower fragments inwards till the foot is vertical, and then examine the relation of the fragments to one another, when you will see the same conditions as have been already described in the case of the femur, namely, shortening, considerable gaping between fractured surfaces of bone, and in some cases the fragments will alternate so much in position that the four fragments must become ankylosed together. When the fractures are made transversely there is not the same displacement of the tibial surfaces off one another, but the lower fragment of the fibula is displaced forwards and inwards off the upper.

Erase the ankle-joint by removing every particle of its synovial line by dividing the extensor and peronei tendons with the anterior and external lateral ligaments and displacing the foot inwards. Place the foot in such a position that its inner margin is vertically placed, and you observe at once that the outer malleolus no longer occupies its normal relation to the astragalus, but that it lies considerably behind it. If, therefore, after such an operation the foot be retained in this position, the mechanical arrangements of the ankle-joint are altered permanently and to the considerable advantage of the patient. In two cases described in a paper read before the Clinical Society in 1892, I divided the tendo Achillis as well as the peronei and extensors. Subsequent experience has shown me that this is unnecessary, and

that the operation can be done quite as effectually without dividing it. As a matter of fact, in practice some of the deformity which ought to result from the vertical foot-piece is sometimes obviated, partly by the foot slipping away from the vertical position, partly in other cases by the outward rotation of the upper segment of the limb being limited to some extent by the leg being slung, in the case of fractures of the tibia and fibula, and in fractures through the shaft of the femur to the upper part of the limb being fixed more or less firmly by bandages, etc., to the splint. In such cases a fairly good result is obtained in spite of the vertical foot-piece.

Fig. A, *Plate XIV*, represents a patient lying symmetrically supine and at rest. He is suffering from an ununited fracture of the right tibia, which has resulted from placing the foot in a vertical position, the tibia having been broken obliquely in its upper third. It shows up well the general similarity to genu valgum which has followed as a consequence of rotating around more or less vertical axes, the broad oblique surfaces of the tibial fragments upon one another. This has necessitated a considerable separation of the bony surfaces, and has so rendered osseous union almost impossible under the circumstances. It has also altered the direction of the axis of the lower fragment so that the foot is displaced outwards, and a condition roughly resembling genu valgum has been brought about.

The left leg occupies the normal position of rest, and shows up well the angle formed by the inner margin of the foot with the vertical in this posture.

Fig. B represents a patient lying in the symmetrical supine position. To the right leg is applied the back splint and oblique foot-piece, which was used for the case illustrated in *Fig. A*, after the fragments had been brought into their normal relationship to one another, and had been clamped accurately and securely together by a strong steel screw, so that the leg occupied the normal position of rest.

On the left leg, for the sake of comparison, a similar back splint is applied, fitted with the old-fashioned vertical foot-piece, the use of which has been productive of so much mischief in the hands of the surgeon.

Fig. C illustrates a tibia and fibula which have been broken at about the same level. The upper fragments occupy the position of outward rotation, which is normal when the easy supine posture is assumed, while the lower fragments are rotated inwards through an angle of 45° on the upper, the tibial articular joint for the astragalus corresponding to a vertical position of the foot.

Having been retained in this position during repair the four inter-

PLATE XIV.

Fig. A.

Fig. C.

Fig. B.

digitating fragments have become ankyloid together by an abundant callus.

In this article I have purposely avoided any reference to the varying angles formed with the vertical by the inner margin of the foot in positions of adduction and abduction, since they do not come into consideration during the occupation of the recumbent posture.

FURUNCULOSIS. *T. Colcott Fox, M.B.*

A French writer reminds us that Alison obtained good results in cases of general furunculosis by the administration, for eight to ten days, of 10 to 15 grains of **Boric Acid** daily, divided into two doses. At the same time, four or five times daily, the inflamed areas were washed with a hot 4 per cent. solution of boric acid. Between these washings compresses wet with a similar solution were applied to the diseased parts. There is no doubt about the value of boric acid compresses.

Spehn, in the "Bull. Gén. de Therap." strongly recommends **Chloral** applications. He directs the boil to be kept covered with a tampon of cotton wool soaked in the following solution :—

℞	Chloral Hydratis	ʒijss	Glycerini āā		fʒx
	Aquæ			Misce	

E. Gourine, according to the "Semaine Médicale," advocates the following treatment :—

℞	Chloroform	ʒj	Creasote		♏xv—xxx
	Ess. of Cloves	♏75—ʒv	Camphorated Oil		ʒij

M.—For external use only.

℞	Salicylate of Merc.	gr.ij—v	Rectified Spirit		ʒss—j
	Salicylic Acid	gr.xv—xxx	Distilled Water ad		ʒiv

M.—For external use only.

The affected part is covered with compresses saturated with either of the above antiseptic mixtures. At the same time, one or other of the following solutions is injected into the boil or carbuncle :—

℞	Carbolic Acid	gr.j—iij	Glycerine		♏xxx
	Salicylate of Sodium		Chloroform Water		ʒij
	Borax āā	gr.xv		F.S.A.	

℞	Iodoform	gr.v—iij	Ether		ʒss—j
	Salol	gr.viij—xv	Rectified Spirit		ʒjss—ij
	Carbolic Acid	gr.jss		F.S.A.	

Chotzen states that gutta percha plasters of **Alumnol** (10 per cent. to 50 per cent.) give good results.

GALL BLADDER AND BILE-DUCTS (Surgery of).

A. W. Mayo Robson, F.R.C.S.

Modern surgery has in this subject one of its brightest pages, but with a few exceptions most of the conquests have occurred in connection with cholelithiasis in one or other of its manifestations.

In an address opening a discussion on the subject at the annual meeting of the British Medical Association[1] last year I sketched out the present position of surgery of the liver and gall bladder, and mentioned the advance that had been made up to that date. The gist of this was given in last year's "Annual."

Anastomosis between the gall bladder and intestine, under the name of cholecystenterostomy or choledochenterostomy has been performed quite a number of times, and I have myself performed it three times, on two occasions with complete and permanent success; on another with immediate success but with ultimate contraction of the recently made opening between the bile-duct and intestines. Two of the cases have not been published and were performed by means of the decalcified bone bobbins.

In a case of gall stone impacted near the duodenum, McBurney[2] opened the intestine and thus reached the common duct, successfully extracting the calculus and closing the intestine. In a somewhat similar case I was able to incise the common duct and extract the concretions, afterwards suturing the opening in the duct.

Although pure bile extravasated in the peritoneal cavity at the time of operation, need not set up peritonitis; that extravasated by the perforation of the bile-ducts owing to ulceration set up by gall stones is by no means harmless, as was shown by a case on which I operated in October, 1893. A middle-aged man was admitted to to the Leeds Infirmary with acute peritonitis following a history of gall stones, and on opening the abdomen I evacuated several pints of bile and washed out and drained the abdomen. Fortunately the patient recovered, but I feel sure that a very little delay must have ended fatally. Dr. Richardson[3] mentions a similar case under the care of Dr. Worcester, of Waltham.

The pathology of gall stones is most ably dealt with by Dr. Brockbank in the "Medical Chronicle" for November, 1893. He believes that the cholesterine is derived from the mucous membrane of the gall bladder or bile-ducts either as an excretion or secretion, and that the formation is predisposed to by the dependent condition of the fundus of the gall bladder favouring stagnation of bile, and by the relation of the hepatic flexure of the colon to the gall bladder.

Choledochostomy is the term applied to an internal fistulous opening

established in the common bile duct. M. Terrier[4] has collected four cases, and I have heard of a fifth not yet published. All ended fatally within a few weeks of operation, from exhaustion or cachexia, probably in consequence of the fact that such extreme distension of the bile duct as to convert the common duct into a cystic tumour, is usually accompanied by infection of the bile passages in the liver.

Choledochotomy is the term applied to the incision of the common bile duct with the object of extracting therefrom an obstructing foreign body, as a rule a calculus. Dr. Terrier[5] has collected seventeen cases, and reports good results in 82·36 per cent. The operation, if feasible, is preferable to that of cholecystenterostomy. Dr. Cabot[6] suggests the use of a small hook with a sharp inside edge for opening the common duct, which he says he has found safe and efficient.

Complications of Cholelithiasis.—Parker[7] discusses this subject under the following heads : (1,) Incarcerated stones ; (2,) The infections involving the biliary passages and the liver ; (3,) Infectious hepatitis (abscess of liver) ; (4,) Obstruction in the intestinal tract ; (5,) Cirrhosis of the liver due to gall stones ; (6,) Cancer of the biliary passages. It is intended to show only the complications that may be present in any case in which one decides to operate. It has happened to the author that the cause of death in operative cases could only be explained by a careful study of these complications, which could not be made out before operation. It is therefore urged that in all cases of death after operation on the gall bladder or biliary passages a careful necropsy should be made, and as many cases reported as possible in order that an accurate clinical picture of the diseases following cholelithiasis may be more fully understood.

Olive Oil in Jaundice due to Simple Obstructions.—Dr. Oliver[8] again draws attention to the value of olive oil in obstructive jaundice, and gives illustrative cases. The author does not believe that the oil dissolves gall stones, but he thinks that in some unexplained way it produces relief.

Intestinal Obstruction Dependent on Gall Stones.—In two cases during the past year I have treated successfully by starvation and opium, cases of acute obstruction depending on gall stones which had set up peritonitis and paralysis of the gut ; in both cases the previous history of 'spasms' pointed to the cause. In one of the patients the cause was proved by a subsequent cholecystotomy. Mr. Lane reports a case in the "Lancet" for Feb. 25, 1893, where he performed laparatomy during the acute attack and found the gall bladder livid and distended and the adjoining intestines coated with lymph. The patient made a good recovery after cholecystotomy.

REFERENCES.—[1] "Brit. Med. Jour.," April 15, 1893 ; [2] "Ann. of

Surg.," Oct., 1893, p. 401 ; [3]" Ann. of Surg.," Oct. 18, 1893 ; [4]" Rev. de Chir.," Feb., 1893 ; [5]" Brit. Med. Jour.," Suppl. Jan. 7, 1893 ; [6]" Boston Med. and Surg. Jour.," Dec., 1892 ; [7]" Ann. of Surg.," vol. vii, part 6, June, 1893 ; [8]" Lancet," Oct. 7, 1893.

GASTRALGIA.

Synopsis.—(Vol. 1893, pp. 44 and 47.) ℞ Phenate of Cocaine, gr. ¾; Subnitrate of Bismuth, gr. 30. M. Sig.—Make into five powders. Take 1 powder one hour before the usual attack of pain. **Solanin**, 5 c.grammes half-an-hour before meals in pill form, or in gummy solution, if pain is very acute.

GASTRIC ULCER.

Synopsis.—(Vol. 1893, p. 243.) Pope finds **Resorcin**, 5 grs. thrice daily, a useful antiseptic and analgesic in gastric ulcer; also in gastric cancer.

GASTRO-INTESTINAL CATARRH.

Synopsis.—(Vol. 1893, p. 41.) **Paracresotic Acid**, 3 to 4 grammes daily for catarrh of nursing women.

GLEET.

Synopsis.—(Vol. 1893, p. 244.) Gouley advises mild astringent injections, using 10 or 12 ounces of **Boric Acid** or **Biborate of Sodium**, 5 grains to ounce applied once daily for five or six days, and afterwards **Chloride of Zinc Solution**, ½ gr. to the ounce. For antebulbar granular urethritis, **Nitrate of Silver** solution, ½ gr. increased to 1 and rarely 2 grs. to the ounce, used every four or five days. In granular urethritis of membranous and prostatic regions, specially if chronic gonecystitis exist, 3, 4 or even 5 grains to the ounce may be required, and the bladder should contain a few ounces of urine during the injection; a steel sound should be cautiously passed two days after each irrigation. In more obstinate cases the granulations are pencilled with solution of **Nitrate of Silver** (10, 20 or 30 grains to the ounce) every four or five days until they disappear; for this the urethroscope is of course required. Guyon's method of instilling 10, 20 or 30 minims of **Nitrate of Silver Solution** (10, 20 or 30 grains to the ounce) to be in a minute washed into the bladder by a stream of water and repeated every three or four days, is useful for membranous and prostatic chronic granular urethritis, but strong solutions are contra-indicated in urethritis anterior to bulbo-membranous portion.

GOITRE.

Synopsis.—(Vol. 1893, p. 246.) Duguet commends the injection of **Tincture of Iodine**, 8 to 16 drops at a time. Kappen and Mosetig use **Iodoform Injections**, and Reverdin advocates **Iodoform** 3 grains daily internally. **Extirpation** and **Enucleation** are extensively practised, preferably the latter. *Exophthalmic Goitre.*—Draper has found the **Digitalis** group of cardiac tonics most useful, giving digitalis frequently in pretty large doses; aconite and aconitine did not give him satisfaction; with **Potassium Iodide** excellent results, short of cure, have been obtained. Trousseau's method is revived, giving ½ to 1 grain doses of **Digitalis Leaves** every half hour for two or three hours during the paroxysm of cardiac excitement, and applying the **Ice-bag** over the heart, and if after three hours amelioration does not result, bleeding is resorted to. Cheadle uses **Tincture of Iodine** internally. **Ferruginous Tonics** are required

for the anæmia when present, and **Bromides** or **Valerian Extract** if nervous symptoms are marked. **Belladonna** and the **Neutral Sulphate of Atropine** are useful in many cases. Sée gives **Veratrum Viride Tincture**, 10, 12 or 20 drops daily to quiet the pulse. **Hydrotherapy** is often valuable. **Electricity** may be of use, a current of from 3 to 8 milliampères being used for eight or ten minutes, the séances being extended over a month at least. The positive pole is applied over the heart, and the negative over the first cervical vertebra. Dieulafoy gave the following in a case where tendency to hæmoptysis existed: ℞ Powdered Ipecacuanha, gr. ½; Powdered Digitalis Leaves, gr. ¼; Extract of Opium, gr. $\frac{1}{10}$; Ft. Pil., 4 to 6 pills in twenty-four hours. Should the **Ipecacuanha** cause diarrhœa, the dose of **Opium** is increased. Möbius has found most benefit from **Bromides**; **Electricity** is most generally useful in the form of **Galvanism**; but **Faradism** may be of service. Bryson advocates the use of **Taylor's Respirator**, together with **Nux Vomica**, **Arsenic**, and **Digitalis** internally.

GONORRHŒA.

Neisser[1] observes that in the later stages of the disease the virus often gains entrance into the deeper layers of the epithelium; protected by its position from germicidal injections, it remains for months or years as a source of infection. In its earliest stages this virus is found superficially, and is readily destroyed by prompt therapeusis.

As meeting all indications, the following are to be commended: **Silver Nitrate**, 1 to 4000 to 1 to 2000; **Ammonium Sulph-ichthyolate**, 1 to 100; **Sublimate**, 1 to 30,000 to 1 to 20,000.

Pure astringents are to be avoided, while irritating solutions and all mechanical treatment, at least in the early stages, are distinctly dangerous.

Internal medication is useless. General hygienic, dietetic, and local antiphlogistic treatment is warmly to be commended.

In chronic gonorrhœa, a search for gonococci must first be made. In case these micro-organisms are found, irrigations, or Guyon's instillations, give the best results.

In women, rectal gonorrhœa deserves more attention than it has heretofore received, since this forms the starting-point of many chronic rectal ulcers.

Neisser believes that the use of the endoscope and the passage of instruments in acute cases are attended with absolutely no danger; that the application of strong solutions of silver nitrate, although sometimes attended with brilliant results, is, as a rule, very unreliable, and is at times dangerous.

Wielander[2] warmly commends his abortive treatment of gonorrhœa. This method consists in the mild scraping of the superficial epithelial layers of the anterior portion of the urethra, and especially of the fossa navicularis, by means of a pledget of cotton wound on an appli-

cator. After this rubbing, 15 drops of a 2 to 3 per cent. **Nitrate of Silver Solution** are injected and retained in the urethra for some minutes. This injection may be repeated the following day, if necessary. In none of the many cases thus treated were there any complications. The only unpleasant feature was the ardor urinæ from which patients suffered for one or two days. When this treatment was employed before the gonococci had penetrated between the epithelial layer, gonorrhœa was aborted.

Hutchinson[3] gives the following treatment of gonorrhœa. His prescription is a partnership of three different remedies, and it is important that they should all be used.

First, an injection of a solution of **Chloride of Zinc** (2 grains to the ounce); next, **Sandalwood-oil Capsules;** and, lastly, a purgative night dose, with **Bromide of Potassium.** The injection is used three or four times a day, the capsules (10 or 20 minims) taken three times a day. The ingredients of the night dose are 3 drachms of Epsom salts and $\frac{1}{2}$ a drachm of bromide of potassium. It is the action of the last-named in preventing congestion of the parts which makes the abortive measures safe.

Moderate purgation and entire abstinence from stimulants are essential. If the case is very acute, and attended by swelling of the corpus spongiosum, tartar emetic, or tincture of aconite, is well prescribed, but it is very seldom indeed that these are necessary. If the patient be well purged, there is no risk whatever in an abortive treatment from the day he comes under treatment.

Caspar[4] considers that alumnol has no special advantages in acute gonorrhœa, and is inferior to **Nitrate of Silver** for chronic cases. As an application to soft sores it proved useful.

Saalfield[5] advises for painful erections **Camphor, Lupulin, Monobromate of Camphor,** and particularly the combination of **Antipyrin** with **Bromide of Potassium,** 15 grains of the former to 45 grains of the latter. As for the local treatment, in recent cases this should be confined to cold or lukewarm local washings, continued for five to fifteen minutes three to six times a day. As to the injections, the one to be preferred in the first place is a 1 per cent. solution of **Sulphate of Thallin,** to be weakened if it occasions much burning. The strength of the solution is gradually increased as the discharge lessens. The injection is repeated four to six times a day. If this is not efficient, a solution of **Sulpho-carbolate of Zinc** 2 to 3 parts to 1000, or a mixture made up of **Zinc Sulphate** $\frac{2}{10}$ of 1 part, **Acetate of Lead** $\frac{4}{10}$ of 1 part, and distilled water 100 parts, or **Sulphate of Zinc, Carbolic Acid,** and **Alum** each ·2 or ·3, water 100 parts, or **Permanganate of Potassium**

·3 to 100, or **Resorcin** 1 or 2 to 100, or **Solution of Tannin** ·5 to ·25 to 100, may be used as injections. In addition, **Salol, Oil of Santal, Copaiba,** and **Cubebs** can be given by the mouth.

Glenn[6] reports twenty-four cases treated by an injection made up of **Chloride of Zinc** ½ a grain, **Iodide of Zinc** 1 grain, water 1 ounce. The frequent micturition, ardor urinæ, and excessive discharge yielded very rapidly. If injecting in the ordinary manner does not cause rapid improvement, the urethra should be thoroughly irrigated with hot water and then with the zinc injection once in twenty-four hours.

Christian[7] concludes that the use of injections, prior to the subsiding stage of acute gonorrhœa, acts, in quite a large proportion of the cases, as an exciting cause in the production of posterior urethritis and epididymitis, and on this account is not to be considered as the best treatment of the disease.

He uses a capsule containing 5 drops of **Oil of Sandalwood** and 5 drops of **Oil of Copaiba,** with 1 drop of **Oil of Cinnamon.** From 4 to 8 of these are taken daily for the first three weeks.

When the "morning drop" persists, an injection of **Sulphocarbolate of Zinc** and **Hydrastis** is used.

Infante[8], of Santiago de Chile, has obtained excellent results in the treatment of gonorrhœa by the fluid extract of **Llareta.** He employs a 2 per cent. mixture of the extract in water, giving it in doses of 2 spoonfuls a day. It is a balsam derived from the Haplopappus llareta, a plant which grows abundantly in the northern part of Chile.

Jadasson[9] employed **Ichthyol** for gonorrhœal urethritis in women, and, as the results were good, he then applied the same substance to the cervix for gonorrhœal cervical catarrh. It seems quite safe when used in the early acute stage. Ichthyol can readily be applied to the cervix, and also, later on in these cases, to the endometrium, with an ordinary Playfair's probe covered with wool; a 10-per-cent. ointment is sufficient. The probe may also be used for the urethra; a weaker preparation—from 1 to under 10 per cent.—is needed. It may, however, be injected, and, in some cases, the urethra should be packed with gauze dipped in the ichthyol, and introduced through a urethral speculum.

Grivtzoff[10] employs **Salol** in doses of 1·5 gramme, with a few drops of **Peppermint Oil,** three or four times a day. It may be combined with cubebs; and, in neglected cases, the following injection should be used:—

℞ Salol. pur.	10 grammes	Aq. dest.	2000·0
Gummi Arab.	5·0		

M. Ft. Emulsio. Inject three or four times daily.

Gonorrhœa[11] is said to be aborted by injecting several times a day with a 1—4000 **Permanganate of Potash Solution** through a rubber catheter perforated laterally along its whole extent, the fluid thus bathing the dilated canal.

Carvallo[12] uses **Lysol,** employing it exclusively in injections, the drug producing a sensation of burning, lasting but a short time. The pain disappeared on the second or third day of the treatment. The secretion diminished after the first injections, and generally disappeared at the end of the week. The author recommends the following formulæ :—

(1,) ℞ Sol. of Lysol (1%) 100 grms | Sydenham's Laudanum 3 grammes
M.

(2,) ℞ Sol. of Lysol (1%) 100 grms | Chlorhydrate of Cocaine ·50 gramme
M.

Either injection is allowed to remain in the urethra for about four or five minutes. The number of injections may be put at three per day, gradually increased in frequency according to the requirements of the case.

REFERENCES.—[1] Neisser, "Archiv. für Dermat. und Syph.," Jan. 24, Heft 6, 1893 ; [2] Wielander, Ibid. ; [3] Hutchinson, "Lanphear's Kansas City Med. Index," March, 1893 ; [4] "Berlin. klin. Woch.," Mar. 27, 1893 ; [5] Saalfield, "Med. Chir. Centralblatt.," No. 17, 1893 ; [6] Glenn, "Journ. of Cut. & Genito-Urin. Dis.," vol. xi., No. 127 ; [7] Christian, "Therap. Gaz.," Mar., 1893 ; [8] "Med. Record," April 15, 1893 ; [9] Jadasson, "Deutsch. med. Woch.," Nos. 38, 39, 1892 ; [10] Grivtzoff, "Meditz. Pribavl. k'. Morsk. Sborniki," No. 9, 1892 ; [11] "Med. Record," May 13, 1893 ; [12] Carvallo, "Boletin de Med. de Santiago de Chile," June, 1892.

GONORRHŒAL OPHTHALMIA.

Synopsis.—(Vol. 1893, p. 251.) **Nitrate of Silver Solution** applied to the everted lids, and passed well into the cul-de-sac, is the best treatment. In severe cases a solution of 20 grains to the ounce is necessary.

GOUT.

Synopsis.—(Vol. 1893, pp. 33, 251.) **Lactic Acid** has been advised as a prophylactic as follows: A solution of 10 drachms of lactic acid, with an equal quantity of water is used, of which the patient takes ½ to 1 teaspoonful, with 2, 3 or 4 glasses of water in the morning; the drug is stopped at the end of two or three weeks, and in six or eleven days is resumed, and this method is continued for months, or even years.

Bresenthal and Schmidt recommend **Piperazine** as a uric acid solvent, 5 grains being given three times a day in soda water. It can only be beneficially used for washing out the bladder in a 1·2% solution. **Ledum Palustre Tincture,** in 5 to 20 minim doses, has been used for subacute affections of the smaller joints.

GOUT (of the Intestine).

Dr. Haig[1] declares that gout of the intestine is more common than is generally supposed, and many cases of colic, enteralgia, enteritis, and typhlitis should be regarded as such. When drugs such as mercury, lead, zinc, and even cocaine are administered to gouty patients, insoluble urates are formed, and an intestinal crisis may be produced. **Salicylate of Soda** is his great remedy. This he has often found very useful in lead colic and pseudo-typhlitis. He gives it in doses of about 15 grains every three or four hours.

REFERENCE.—[1] "Therap. Gaz.," Sept. 15, 1893; "Revue des Sciences Médicales," July 15, 1893.

GRANULAR LIDS.

Synopsis.—(Vol. 1893, p. 252.) If granulations are near the surface, **Squeezing out** will be enough, but if deep they must be **Cut down** on or before being squeezed or brushed out. Knapp's or Graddy's forceps are used for the former process, and solid **Cocaine** is dusted over the everted conjunctiva after the use of a few drops of a 2% solution. The German and French method requires anæsthesia, under which the exposed and scarified conjunctiva is vigorously **Brushed** with a hard tooth brush, dipped in 1 in 500 sublimate solution, until the granulations are removed, when cold compresses are applied; the next day the sacs are cleansed with weak **Sublimate Solution**, and on the following days the lids are inverted, the false membrane removed, and any granulations left are cut away with scissors. After simple expression, the lids are brushed on the second day with a 2 or 4 per cent. **Glycerine Sublimate Solution**, and this is repeated daily on every second or third day until inflammation subsides, the patient using a lotion of sublimate, 1 in 500 to 1 in 2000, two or three times a day.

HÆMATEMESIS.

Hy. Handford, M.D., M.R.C.P.

Hæmatemesis is so much more frequent in women than in men that some explanation is required. *Post-mortem* records do not show any excess of gastric ulcer in the female sex at all *proportionate* to this predominance of hæmatemesis. In numerous instances the hæmorrhage arises from ruptured capillaries or small vessels, and no ulcer worthy of the name exists. The rupture of these small vessels is favoured by anæmia in several ways. Partly by malnutrition, leading to fatty degeneration of the vessel walls; partly, by the general rise of the vascular tension, which has now been shown beyond dispute to be common in some forms of anæmia; and, last but not least, by some backward pressure in the gastric venous circulation from the dilatation of the right side of the heart, inevitable in all cases of severe anæmia. It is the anæmia, the constipation, and the feeble heart which urgently require attention; and saline aperients are the most valuable remedy.

Where the tongue is clean and there is little or no epigastric pain, I am accustomed to give **Sulphate of Magnesia** with **Sulphate of Iron, Sulphuric Acid, Nux Vomica,** and perhaps, small doses of **Digitalis.** Where there are signs of gastric catarrh, I give an alkaline aperient: **Bicarbonate of Soda** in full doses, **Sulphate of Soda, Sulphate of Magnesia,** and **Tincture of Nux Vomica,** omitting the iron or giving it in pill.

It is, I think, easily possible to restrict the dietary too much in cases of hæmatemesis. The best guide is the state of irritability of the stomach, as indicated by pain and vomiting. Neither of these symptoms is a necessary consequence of gastric ulcer. They indicate either an *inflamed* ulcer, or surrounding catarrh. If hyperacidity is properly met by the administration of alkalies, a moderate amount of light food in a fine state of division may safely be given, even in gastric ulcer. Rapid healing cannot be looked for in the absence of abundant nutrition. In dogs, ulcers of the stomach, artificially produced, cannot be prevented from healing so long as the dogs remain in good health.

REFERENCE.—"Brit. Med. Journ.," Sept. 19, 1892.

HÆMATURIA. *E. Hurry Fenwick, F.R.C.S.*

Dr. Bolton Bangs[1] lays down the following rule: That blood from the bladder is much more abundant, more likely to clot, more persistent, and when intermittent has shorter intervals than that from the kidney. It is usually associated with some symptom of irritability of the bladder. That diagnosis of source and cause is usually established by bimanual palpation, exploring instruments, such as the sound and electric cystoscope, and that microscopical examination of the urine for casts, crystalline and granular material, neoplastic *débris* and epithelium, is of great aid.

Dr. Keyes refers to Dr. Otis' resorption test, which is said to be of use in hæmorrhage from an ulceration of the bladder. If there is an excoriation of the bladder wall and a solution of iodide of potassium is injected into the bladder, the drug is quickly absorbed, and at the end of a very short time its presence is demonstrable in the saliva by means of the starch iodine reaction.

Dr. Tuttle states he had found powdered **Cinnamon** very valuable in the treatment of bleeding from the genito-urinary tract.

Compare the value of the Electric Cystoscope in Hematuria. "Annual," 1892, p. 118.

REFERENCE.—[1] "Journ. Gen.-Urin. Dis.," p. 35, Jan., 1893.

HÆMOPTYSIS. *Fr. Eklund, M.D., Sweden.*

There is hardly a disease which causes so much anxiety to the patient, and to the patient's friends, as hæmoptysis. The danger of bleeding to death is certainly very small, as the bleeding, as a rule, is parenchymatous, or is caused by oozing from small vessels. It is excessively rare that a patient suffering from hæmoptysis dies through bleeding to death. The apparent danger, however, renders it imperative that the doctor remain longer with the patient than ordinarily in order to watch the effects of the instructions given. Under these circumstances I could hardly fail to notice that the usual method of sucking ice or of drinking cold fluids had quite the contrary effect to what one would expect, because the bleeding increased ; nay, occasionally the blood came rushing up after each lump of ice or each drink of water. A closer investigation enabled me to understand the absurdity of this method now in vogue, and led me to employ the very opposite line of treatment, and to give tepid glutinous drinks in small quantities to quench the thirst caused by the bleeding. From this time I was more successful in arresting the bleeding, and how could it be otherwise? One has only to take the trouble and listen to intelligent patients suffering from this complaint, to learn that there is nothing they fear so much as: (1,) To consume cold drinks or cold food ; (2,) Or to get their feet cold ; (3,) When hot or perspiring from bodily exertion, or otherwise, to become rapidly cooled down, to obviate which they put on another coat. Nevertheless, in hæmoptysis, an ice-bag applied to the chest over the bleeding spot (generally the right apex) acts very favourably to check the bleeding. It happens too often in cases of hæmoptysis that the patient's friends, before the arrival of the doctor, have administered one or two tablespoonfuls of common salt, which is the most usual popular remedy (in Sweden) in these cases. It cannot be denied that the salt relieves the congestion of the lungs and helps to check the bleeding for the time being, but the secondary effects of it is to endanger still further the life of the patient, through increasing the brittleness of the vessels. It is thus of the greatest importance that this mistake should be rectified in the minds of the public.

In the district in which I practise, malaria is endemic, and a great number of the inhabitants fall a prey to this disease in their early years. A constitution thus undermined offers a favourable soil to the tubercle bacilli. Guided by experience I have usually prescribed :—

℞ Quin. Sulph. gr. lx | Acidi Tartar. q.s.
Ext. Secalis Cornu. gr. xxx |

M. ft. Pil. xl. Sig.—Pil. ij bis vel ter. die sum.

In severer cases, or where the bleeding has resisted the treatment for some time, I have ordered the patient in the intervals to take :—

℞ Ext. Hamam. Virgin. liq. | Ext. Glycyrrhizæ
Ext. Hydrast. Can. liq. āā ʒijss | Aq. dest. ʒiijss—vij

Mix. Sig.—ʒij—ʒss h. alt.

Acetate of Lead is of course a valuable adjunct in the treatment of hæmoptysis, but we should be careful to avoid prescribing it for young persons, lest, after recovering from the hæmoptysis they should suffer from lead colic, if this drug has been used for a lengthy period. The acetate of lead should therefore be reserved for older patients; but it must be given in doses of gr. iij½ twice, and not oftener than three times daily, and preferably in solution, together with **Acetate of Morphia,** in doses of from $\frac{1}{10}$ to $\frac{1}{6}$ of a grain.

Synopsis.—(Vol. 1893, p. 254.) Harris mentions **Morphia Injections** as the most useful remedy, as cough is stopped and mechanical rest favoured thereby. Wright suggests **Chloride of Calcium,** giving drachm doses of Liquor Calcis Chloride every hour; a small dose of **Morphia** combined with this has given good results.

HÆMORRHAGE (Cerebral.) *Græme M. Hammond, M.D., New York.*

At the last meeting of the neurological section of the Pan-American Congress, Dr. E. R. Broner[1] considered the subject of the treatment of cerebral hæmorrhage. He spoke of the various methods of treatment with the view of controlling arterial tension and diminishing arterial degeneration. He also referred to the beneficial effects of the administration of **Strychnia** and the favourable results from the application of the **Galvanic Current** to the brain for the relief of the hemiplegia.

Dr. H. A. Hare does not consider that the galvanic current acts directly upon the brain structure, but may hasten absorption in a reflex manner. He is of the opinion that the current as applied to the head with moistened electrodes, does not pass through the brain at all, but merely passes through the scalp as it is the path of least resistance.

Dr. Leszynsky considers that anchylosis of joints can usually be avoided if passive motion is begun soon enough and is persisted with. Strychnia is of value only as a tonic, and does not improve the paralysis. He has never observed any beneficial effect that could be attributed to the use of galvanism applied to the head.

Dr. Dircum is opposed to the use of strychnia on account of the probability of its hastening contractures, nor does he consider electricity is of any service in these cases.

REFERENCE.—[1] "New York Med. Journ," Sept. 23, 1893.

HÆMORRHAGE (Post Partum).

Dr. Murray[1] is convinced that many cases of post-partum hæmorrhage are not due to non-contractility of the uterus, but are frequently due to lacerations of the cervix, vagina, or external genitals, and proceed to grave results. He would therefore insist that as soon as the hand is placed on the uterus externally, the other rendered aseptic, should always be introduced into the vagina after careful inspection of the external genitals, and the cervix and fornix vaginæ be examined carefully for lacerations.

This is not so easy as it would seem, since the cervix is soft and flabby; but, by grasping the anterior and posterior lips, the lacerations at the sides, front, or back will be easily appreciated. At the same time this constitutes the proper immediate treatment, since the pressure of the fingers closes the bleeding points, and the lips can readily be pulled down to the vulva, when the tear will be clearly seen, as the fundus, being contracted, traction on the cervix arrests bleeding in the puerperal as in the non-puerperal uterus—an expedient in every-day use in gynæcological practice. If the bleeding be arrested by this means, grasping the cervix with a clamp forceps enables one of very moderate surgical skill to pass a silver wire suture, twist it, control the bleeding, and at the same time repair the lesion.

Dr. Stanmore Bishop[2] points out the favourable conditions offered by the subjects of post-partum hæmorrhage for compression of the abdominal aorta. The abdominal walls are relaxed to their utmost both by collapse and the previous pregnancy, and no opposition is offered to the compressing hand, which should always be used in preference to any instrument. Moreover, the hand can be shifted upwards or downwards along the spine over the vessel as pressure on one spot or another becomes painful or irksome to the patient. Whilst the left-hand firmly compresses the aorta the right can be employed in grasping and kneading the uterus, thus both compressing the ovarian arteries and exciting the muscular walls to contract. Not only does pressure used in this way effectually stop the torrent of blood from the placental site, but it helps to bring about in the best possible way the final hæmostasis—that produced by the formation of reliable clots in the small vessels themselves.

Before resorting to the extreme measure of plugging the uterus Tarnier[3] uses the following intra-uterine injection :—

℞				
	Iodine	30 parts	Distilled Water	60 parts
	Iodide of Potassium	1 part		

Tarnier[4] observes that in cases where a family history or previous record of post-partum hæmorrhage resultant on uterine inertia is

obtained it is advisable to rupture the membranes before the os is fully dilated; the uterus then contracts more slowly and steadily, and after the birth of the fœtus continues to contract on the placenta. The uterine cavity must be cleared of coagula when the placenta has been expelled; then, in cases of pure inertia, there is little fear of more flooding. Hot water intra-uterine injections are not always at hand; they must not be used till the uterus has been cleared of clots. The uterine tampon is usually inadmissible, but subcutaneous injections of saline water may be needed.

REFERENCES.—[1] Murray, "New York Med. Journ.," Feb. 18, 1893; [2] Bishop, "Lancet," April 22, 1893; [3] Tarnier, "Journ. des Sages Femmes," Dec. 16, 1892; [4] Journ des. Sages Femmes," April 1, 1893.

Synopsis.—(Vol. 1893, p. 255.) Gottschalk uses **Hydrochlorate of Hydrastinin** in: (1,) Menorrhagia in girls, without gross pathological change; (2,) When excessive loss at menstrual periods follows the use of the curette; (3,) Climacteric menorrhagia. It acts more as a palliative in (4,) Menorrhagia with irreducible retroflexion; (5,) Disease of uterine appendages; (6,) Endometritis. He gives **Hydrastinin**, 0·05 gr. dose thrice daily by mouth, and also injects it into the gluteal muscles. Abel values it especially for subcutaneous use, but thinks its action too slow for acute hæmorrhage, and of little benefit where this is due to fibroids, but esteems it for metritis and endometritis, and for pure menorrhagia without evident ovarian or uterine disease; he cured five cases with the drug after the curette failed. He uses 10 per cent solution, injecting ½ to 1 gramme under the skin over the right or left iliac fossa. For menorrhagia 1 gramme is injected daily during the period. In chronic metritis this may be done weekly. Bossi uses **Fluid Extract Hydrastis Canadensis**, 100 or 200 drops daily, preferring it to ergot in efficiency, and as being innocuous in pregnancy. He uses 100 to 150 drops daily for losses occurring in pregnancy; 50 to 60 drops thrice daily after parturition; also advises its use in placenta prævia in preliminary stages, also in the period of dilatation, and as prophylactic against post partum hæmorrhage, uterine weakness, great development of fœtus and adnexa, anæmia of children and disposition to hæmorrhage. Dimitrieff injects 0·0003 gramme **Atropine** in profuse menorrhagia. Meisels treated urethral, vesical and uterine hæmorrhage with **Pure Cornutin**; 0·01 gramme daily in divided doses gave satisfaction. Velits uses **Iodoform Gauze Tampons** to control hæmorrhage during labour; it is injurious where the state of the blood itself is the fault, and weak solutions of **Chloride of Iron** replace it here, and for high cervical tear **Suture** is the only remedy. In atonic hæmorrhages only a small quantity of gauze should be introduced into the uterus, but in hæmorrhages of the latter end of the puerperium, or directly after labour of those associated with myomata, the uterine cavity should be firmly and completely packed.

HÆMORRHOIDS.

Smith[1] states that for many years he has not had a single case of blood-poisoning, hæmorrhage, or any serious complication, after an operation on hæmorrhoids, nor have there been any instances of cicatricial contraction sufficiently marked to interfere with function.

The author is a firm believer in the clamp and cautery. Formerly he seized the pile with the clamp, trimmed away the redundant tissues with the scissors, then cauterized the base. In some few cases moderate hæmorrhage occurred when the bowels were first opened. Latterly he has employed cautery blades with serrated edges, heated to a dull-red heat. If the piles are divided by means of such blades, every vessel must of necessity be acted on by the cautery, and the laceration produced by the serrated edges acts as an additional safeguard against bleeding.

Another improvement adopted of late years is the thorough dilatation of the sphincter previous to operation. Care must be taken to avoid actual rupture of the fibres, since incontinence may result. Dilatation of the sphincter, however, greatly facilitates operation, and lessens, or even quite abolishes, after-pain. When the patient suffers after operation, the best local remedy for its relief is the constant application of very hot water by means of a small sponge. In patients operated on in this way, constitutional disturbance is usually so slight that it is difficult to persuade them that it is needful to remain in bed for a few days.

Dr. Rigby[2] suggests that if hæmorrhoids prolapse during defæcation, the patient should lie on his back, and use a bed-pan. The extrusion is thus avoided, and the author advises that the action of the bowels should be followed by bathing with warm water, and the application of an ointment :—

℞ Ung. Ox. Hydrarg. rub. 1 part | Ung. Cetacei 3 parts

M.

Rossolo[3] warmly recommends **Chrysarobin** in the form of a suppository in the treatment of hæmorrhoids. The suppository is made up as follows :—

℞ Chrysarobin	gr. j	Iodoform	gr. ½
Coca-butter	gr. xxx	Extract of Belladonna	gr. $\frac{1}{10}$

Kosobudski[4] employs :—

℞ Chrysarobin	gr. xiv	Extract of Belladonna	gr. x
Iodoform	gr. v	Vaseline	℥ss

M.

Sig.—This is to be applied as an antiseptic and a soothing ointment.

Preismann[5] gives the following :—

℞ Iod. of Potassium	gr. xxx—lxxv	Glycerin	℥x
Powdered Iodine	gr. v		

Mix, and label "For external use."

The patient is to take a hot sitz-bath daily, and to apply to the hæmorrhoids every three or four hours small tampons of absorbent cotton mixed with this glycerole. This diminishes the sensation of pain and burning.

Should inflammation become increased, a weaker solution may be employed, or in other cases the strength of it may be increased.

Preismann claims that this treatment will cure hæmorrhoids in from two to three weeks.

REFERENCES.—[1] Smith, "Lancet," No. 3627, 1893; [2] Rigby, "Lancet," Dec. 24, 1892; [3] Rossolo, "Annales d' Orthopédie," tome 6, année 7, No. 2; [4] "L'Union Médicale," June 4, 1892; [5] "Therap. Gaz.," Mar., 1893.

Synopsis.—(Vol. 1893, p. 258.) Brunton recommends keeping the liver free by **Horse Exercise** or **Gymnastics**, especially bending and touching the toes while the knees are kept straight. If piles come down, the bowels should be emptied at night, and the anus washed after a motion, for which purpose a sponge may be carried in a tobacco pouch. **Hamamelis** (preferably one of the proprietary preparations) should be applied on sheep's wool deprived of its fat, not cotton wool, and a pledget is placed within the anus, while another is partially introduced, and forms a felted pad outside. For internal piles half to a drachm hamamelis may be injected into rectum with a syringe. Pruritus and eczema of anus are relieved by applying **Eau-de-Cologne**. Verneuil treats piles by **Gradual Dilatation** of anus to overcome spasms of sphincter, but avoiding muscular rupture. Afterwards an **Iodoform Suppository** is introduced, and **Dry Iodoform** dusted on, but incontinence of fæces follows for a few days. Mercier considers this method curative, except where piles are very large, anal orifice relaxed, and prolapse of mucous membrane exists, but even here it gives temporary relief.

HARELIP.

A new operation for anterior cleft-palate combined with harelip is described by Dr. John Wyeth, of New York. Silver wire is inserted at about a quarter of an inch from the anterior edges of the gaping bones, and the alveolar process of the most affected side is chiselled through at about the middle point. The wire is then drawn taut, and the freed portion of the alveolar process is thus brought to join the opposite maxilla at the front of the mouth. Union is secured in from six to eight weeks, and then the plastic work upon the lip and nasal alæ is undertaken according to the usual plan. The advantage of the new method is that bony support is secured in the front of the mouth, and therefore the cosmetic results are far better than usual in severe cases.

The author advised early operation, always in the first year of life, and preferably in the first three months, if the general nutrition is good.

REFERENCE.—"Medical Record," July 8, 1893.

HAY ASTHMA.

Synopsis.—(Vol. 1893, p. 260.) Euphorbia Pilulifera Tincture, 30 drops every four hours, in Water or Glycerine, for some days.

HAY FEVER AND PAROXYSMAL SNEEZING.

Greville MacDonald, M.D.

Probably few affections show such rapid tendency to numerical increase of cases as those where paroxysmal sneezing is the prominent symptom. Morell Mackenzie used to affirm that he had never seen a case among his hospital patients, and that such affections prevailed chiefly among his aristocratic following. But to day, whether it be that compulsory education is steadily rendering the lower orders more neurotic—a most important element in all sneezing affections—or whether it be that even the aristocracy in these evil days are beginning to frequent our out-patient departments, yet in any case we have large numbers of sufferers from hay fever and allied troubles not only among our hospital patients, but increasingly among every class of private. The increase of the neurotic element in disease is probably responsible for this. And, but for this, presumably the local mischief, which is usually found in the nose as the immediate cause of the symptoms, would not be sufficient to produce them. Nevertheless, the local being an indisputable element, it behoves us to remedy this as easier to modify than the constitutional factor. And just so far as we are able to correct the abnormal condition in the nose may we give a good prognosis ; but no further.

The commoner local conditions with which we have to deal in a case of paroxysmal sneezing, whether due to the irritation of the pollen of grasses, or roses, or ragweed, and the rest of them ; or whether occurring daily independently of direct irritants and due solely to the pathological conditions in the nasal fossæ, together, of course, with the neurotic temperament ; are one or other form of obstruction to the free passage of air along the inferior meatus. Briefly, these are vascular engorgements or true hypertrophies of the erectile tissue, deviations or hypertrophies of the septum, polypus etc. These are more generally to be found in cases of typical hay fever. In those other cases of paroxysmal attacks of sneezing just mentioned, we often find in addition a peculiar swollen and œdematous condition of the whole Schneiderian, but especially high up on the anterior portion of the septum. The mucous membrane is almost colourless, watery, covered with quantities of thin mucus, which the swelling prevents the patient from extruding in the usual manner. The swelling pits on pressure, and subsides but little on the application of cocaine; in this respect contrasting with the usual hyperæmic tumefaction of the

erectile inferior turbinated bodies. But as with the latter while cocaine generally gives temporary relief to the symptoms, yet it as surely helps to perpetuate and actually aggravate the condition it seeks to relieve.

The only treatment is surgical. Any obstructing masses must be removed, and the œdematous mucous membrane cautiously treated with caustics. Of these none is equal to the **Galvano-cautery**; but where this is not available much may be effected with chemical caustics such as **Chromic Acid, Mono-chloracetic Acid,** or other. But extreme care must be employed to obviate the production of adhesions. These are only too often caused, and invariably imply carelessness on the part of the surgeon.

HEADACHE.

Synopsis.—(Vol. 1893, pp. 51 and 260.) **Thymacetine** in ½ gramme doses. Moritz recommends **Dilute Muriatic Acid** in some unilateral paroxysmal headaches, associated with dyspepsia. In many cases retention of fæces may be the cause and for which **Colo-clysters** give relief.

HEADACHES (Congestive). *Græme M. Hammond, M.D., New York.*

These headaches are quite common, particularly among the insane. One of the best hydriatic procedures for their relief, says Dr. Peterson, is a running water **Cold Foot Bath** every evening. The object is to dilate the vessels of the feet, to derive the blood from superior parts. One must therefore prescribe a prolonged foot bath, accompanied by rubbing and chafing the feet; or a strong fan douche of cold water applied to the feet very soon dilates the vessels and warms and reddens the feet. Actual experiment has shown that the temperature in the auditory meatus is lowered as much as one degree by a cold foot bath.

[1] "American Lancet."

HEART (Diseases of). *Frank W. Jackson, M.D., New York.*

Osler[1] has contributed a valuable study of the subject of *Tuberculous Pericarditis.*

He tells us that tuberculosis follows hard upon rheumatic fever as a cause of pericarditis. The affection is usually overlooked clinically, and possibly in some cases anatomically. In one thousand autopsies there were two hundred and seventy-five cases with tuberculous lesions, in seven of which the pericardium was involved. The author has had the opportunity to observe seventeen cases of tuberculous pericarditis.

As regards *Etiology* he finds no limit to age; of his cases the youngest was a child of five years, the oldest a man of seventy-two years. Cases in infants under one year have been recorded. Males are more prone to the disease than females.

Tuberculous pericarditis is due, in a majority of instances, to infection of the membrane from caseous mediastinal lymph glands. The disease may be confined to these glands and to the pericardium. A second less common mode of extension is from the pleura or lung. Thirdly, there are instances in which the pericardium appears to be involved, with the pleura and peritoneum, in a general tuberculosis of the serous membranes.

Practically there are two groups of cases : those with firm adhesions between the pericardial layers, usually with great thickening ; and those with recent exudation, fibrinous, sero-fibrinous, hæmorrhagic or purulent. The cases with adhesions are the most numerous. The condition of the heart in this chronic adhesive form is most interesting. As is usual in adherent pericardium, particularly when the layers are very thick, there is enlargement of the heart, which may even be extreme.

Clinically we may recognize four groups of cases :—

(1,) *Latent Tuberculous Pericarditis.*—A considerable number of all the cases on record belong here. The disease is discovered accidentally in individuals who have died of other affections, or of chronic pulmonary tuberculosis.

(2,) *Those with Symptoms of Cardiac insufficiency following the Dilatation and Hypertrophy consequent upon Adhesive Pericarditis.*—The clinical features are really those of cardiac dropsy. Here the diagnosis is usually made either of simple hypertrophy and dilatation of the heart when there are no especial auscultatory signs, or of mitral insufficiency when a loud, blowing murmur is heard at the apex. The diagnosis of adherent pericardium, always uncertain, is doubly so in cases characterized by dyspnœa, dropsy, and signs of cardiac dilatation, since under these circumstances it is almost impossible to make a satisfactory physical examination.

(3,) *Those occurring in connection with Acute Tuberculosis.*—Here again the pericarditis can rarely be recognized during life. The clinical picture may be that of an acute tuberculosis, either general or with cerebro-spinal manifestations.

(4,) *Cases with Symptoms of Acute Pericarditis.*—This group, the most important in many respects, includes cases in which the pericarditis is acute and accompanied with more or less exudation of a sero-fibrinous, hæmorrhagic, or purulent character. Here, too, the process may be latent, as in the case of a young man under Dr. Osler's care who died of hæmoptysis. The autopsy showed chronic tuberculosis of both lungs and extensive pleuritic adhesions. The layers of the pericardium were united by soft adhesions which could be readily

torn through. On each membrane were innumerable small granulations, and here and there a nodular tubercle from one to two millimètres in diameter. Acute plastic pericarditis, in chronic tuberculosis, is not, however, always due to the eruption of miliary tubercles. In two autopsies on patients with chronic pulmonary tuberculosis, dying under Osler's care, there was simple pericarditis without a trace of tubercles and with little or no exudation. Often, though the pericarditis is recognized, there is no suspicion before death that the process is tubercular, nor is there any clue to indicate that this is the possible nature of the trouble.

The *Diagnosis* of tuberculous pericarditis is extremely uncertain. In the large group of cases in which the membranes are thickened and united, the difficulties are those which always pertain to the recognition of adherent pericardium, difficulties which are enormously enhanced by the state of cardiac insufficiency which is usually already present. In children, with a history of repeated attacks of rheumatism, the bulging præcordium, systolic retraction at the apex, the fixation of the upper limit of cardiac dulness and the diastolic rebound, tell of adherent pericardium; and if, in a case of this sort, there has been no history of rheumatism, but, on the other hand, there are indications elsewhere of tuberculosis, a probable diagnosis may be made. In the cases which set in as acute pericarditis, where there are evidences of tuberculosis in other parts, *e. g.*, the left pleura, peritoneum, or lungs, and if tubercle bacilli have been found in the expectoration, the diagnosis can occasionally be made. The effusion may be equally as great in tuberculosis as in rheumatic pericarditis. If paracentesis be performed the presence of a bloody exudate is decidedly in favour of tuberculosis. In one instance tubercle bacilli have been found in the fluid. The clinical features themselves offer no criteria, though it would seem probable that in the acute cases, with sero-fibrinous exudation, the course is more protracted and the fever more irregular than in the ordinary forms of pericarditis.

As regards *Prognosis* it seems probable that tuberculosis of the pericardium may, as a similar process in the peritoneum, recover completely. Possibly some of the cases of simple adherent pericardium are instances of healed tuberculosis. The chronic adhesive form persists in all likelihood for years, producing few, if any, symptoms until the compensation fails in the hypertrophied and dilated heart.

The *treatment* is in no way different from that of any other form of pericarditis.

It is with pleasure that the reporter records the statement that *Myocarditis* is no longer regarded by the German physicians as a fairly common form of heart disease. Fraentzel[2] in his description of this

disease says: "The views of physicians in regard to myocarditis have recently changed very much. Formerly a case of myocarditis was much oftener diagnosed than to-day, although Virchow has always maintained that myocarditis was a comparatively rare disease."

Fraentzel admits that as yet our knowledge of the subject is very imperfect, and that the diagnosis of myocarditis is in all cases attended with great difficulties. The chronic form of this disease is the most distinct. According to Rühle and Kœster, who have collected a remarkable number of cases from material furnished by the clinic and deadhouse at Bonn, there are four different kinds of myocarditis: an acute and chronic form, and a circumscribed and diffuse form of each of these.

(1,) The *Acute Circumscribed Form* appears as an abcess in the cardiac wall or in the septum ventriculorum, either with or without external perforation or perforation of the septum. During life, however, nothing characteristic could be determined from the symptoms. As a rule the course of the disease was very rapid and ended in sudden death. The symptoms were cardiac weakness, fainting fits, oppression, and the sudden occurrence of paralysis of the heart. There were no direct physical signs. The last case observed by Rühle was like acute poisoning or internal hæmorrhage.

(2,) *Acute Diffuse Myocarditis* is very rare. It may appear as a primary condition (rheumatic), or secondary to other diseases, as pyæmia. We may discover numerous small abcesses in the heart muscle, or simply changes in the colour and consistency of the muscle. Bacteria have been found in the abscesses. The primary form occurs, perhaps, the more frequently, but since it is not necessarily rapidly fatal its symptoms during life are not brought into close connection with the cause of death, and so the disease is rarely recognized. The positive signs of this form, which consists only of increasing weakness of the force of the heart, of slight increase in its volume and an increasing disturbance of the circulation, can only be regarded as dependent on an inflammatory muscular affection if all other conditions which might be attended with the same symptoms are proved to be absent.—The symptoms of the second form were cardiac weakness, attacks of tachycardia (two hundred beats per minute), and some cardiac dilatation.

(3,) *Chronic Circumscribed Myocarditis.*—This may occur as an indurated thinning of some portion of the cardiac wall, or of the septum, and especially as the starting point for the pouchings of the heart, the so-called genuine cardiac aneurisms, which are sometimes observed during life. The presence of such a pouch can of course be only

diagnosed when its position admits of its demonstration by palpation or percussion.

(4,) In cases of *Chronic Diffuse Myocarditis*, we find not only formed cicatrices but also scattered deposits in the muscular structure. These are often overlooked at the autopsy. Myocarditis occurs much more frequently in the left heart than in the right. Chronic diffuse myocarditis, then, almost entirely affects the left heart; it appears in spots, the larger patches being made up of several smaller ones. These spots consist of shining connective tissue. The diagnosis of this condition is very difficult. Rühle insists that the general picture of chronic diffuse myocarditis is that of a no longer compensated vavular lesion. Fraentzel states that in all his cases the symptoms belonging to failure of the lesser circulation have been the first indications of any disturbance of health. These difficulties—especially marked dyspnœa and a feeling of exhaustion in walking (and especially in mounting stairs, or attending mental excitement)—are accompanied or ushered in by a feeling of palpitation of the heart, and sometimes by dull pain over the cardiac region. The trouble progresses, and attacks of dyspnœa or oppressed breathing are superadded. The immediate cause of these attacks is found sometimes in pulmonary œdema, at others in obstruction of the pulmonary vessels and the resulting infarcts. Often, however, the demonstration of any one of these causes is impossible, and the short duration of the attack renders their assumption impracticable. In all cases there were coincident disorders of digestion and of the functions of the liver and kidney. As regards physical signs it is found that palpation may reveal irregularity in the apex beat, but Fraentzel thinks little of this. In the beginning of the disease percussion generally indicates a definite enlargement of the heart; later, however, percussion shows very little change of the normal cardiac area. On auscultation we find clear cardiac sounds, but the second aortic sound is usually markedly weak. The only striking peculiarity is the irregularity in the strength and succession of the cardiac tones; at one time, the first sound is loud, even ringing, at another, it is only slightly accentuated or very faint. The sounds may follow each other very rapidly and then there may be a pause, or else several slow sounds occur. Thus the irregularity of the heart is so great that it is impossible to be certain whether there is a murmur or not. Rühle lays the greatest stress upon this so-called "delirium cordis." In his undoubted cases of chronic diffuse myocarditis the irregularity and inequality in the number of heart beats were always present and, usually, appeared from the commencement of the disease. The whole subject, however, requires much more extensive study.

A case of *Malignant Endocarditis* occurring immediately after an attack of gonorrhœa is recorded by His,[3] and is very instructive as showing a source of infection in this serious form of heart disease that is not generally recognized. A boy of fifteen had a gonorrhœal discharge for three weeks, during which time he was treated by sublimate injections and rest in bed. About a week after the discharge had ceased he was exposed to severe cold and great exertion, and on the following day he had a chill. Four days later there were numerous ecchymotic spots on the face, arms, and trunk. The heart was found enlarged, there was a loud, blowing, systolic, apex murmur, and the spleen reached to the costal margin. The pulse was 104, the temperature 104·8° F. The urine and the blood were normal. Two days later he became deaf. He continued to have a temperature, ranging from 101·6° F. to 105° F., of the continued remittent type. In less than three weeks he had become dull and apathetic, and he had diarrhœa. In the fourth week a fresh crop of spots appeared, the heart had still further increased in size, while the sounds and bruit were no longer clear. In a few days œdema of the legs appeared, and the spleen became palpable. The patient died suddenly and the *post-mortem* revealed multiple cutaneous hæmorrhages, ecchymoses of the pleura, and minute hæmorrhages beneath the pericardium and the endocardium. There was ulcerative endocarditis of the aortic valve and a puriform softened thrombus at the apex of the heart. There were infarcts in one kidney and in the spleen. In the pubic plexus numerous old venous thrombi were seen, and small petechiæ in the testicles. Numerous cocci were found in the vegetations of the valve, of the form and size of the gonococcus, and showing its staining reaction to Gram's method. None were found, however, in the infarcts, and inoculation in animals produced no result. His points out that this appears to be one of those rare cases in which gonorrhœa had led to a rare pyæmic affection. In the course of an attack of slight intensity, septic thrombi form in the veins of prostatic and pubic plexuses from which infection spreads. The process is first localized in the aortic valves, and at first remains latent. The ulcerative endocarditis manifests itself in cutaneous emboli, which are accompanied by rigors and the appearance of a hyperæmic septic rash. Then follows a regular pyæmic process, interstitial inflammation of the heart muscle, and, finally, cardiac weakness, which lead to death. His also refers to two other reported cases, but in neither were the pelvic venous plexuses examined.

Hampelin[4] has given us some further studies of the subject of bradycardia. This, he says, may be either physiological or pathological. The former is observed in convalescence and after confinement, the

latter may be connected with poisoning, with functional or organic disease of the heart or with disease of other organs. Bradycardia may be transient or permanent. Temporary slowing of the heart occurs in the course of typhoid fever, diseases of the brain, spinal cord, etc. That which may be considered a pure functional neurosis of the heart seems to occupy an intermediate position between the two groups. It may be present by itself, or in association with other neuroses, and seldom becomes very pronounced. It is different from the bradycardia which occurs in connection with organic affections of the heart, especially aortic stenosis, sclerosis of the coronary arteries and sclerosis and fatty degeneration of the myocardium. In aortic stenosis this bradycardia is compensatory for the heart; by beating more slowly it contends to a greater advantage against the obstruction. Bradycardia must in all cases be regarded as indicative of a more or less dilated heart. The treatment should be directed to the cardiac asthenia rather than to the bradycardia. Stimulants, particularly **Atropine**, may restore the normal rate of the heart beat. In a case of aortic insufficiency, with failure of compensation and a pulse of 40 per minute, the symptoms disappeared under the use of **Digitalis**, which accelerated the pulse to 60. In cases of this kind Hampelin considers degeneration of the myocardium as the real cause of the permanent slowing of the heart, and the condition of this tissue should be our guide in treatment.

Dehio[5] suggests the employment of atropine to distinguish cases of bradycardia due to irritation of the vagus system from those depending upon a lesion of the automatic motor apparatus of the heart itself. As atropine paralyzes the endings of the vagus nerve in the heart, a subcutaneus injection of this drug will cause the bradycardia to disappear in those cases which depend upon irritation, either of the bulbar vagus centre, or, of the terminations of the nerve in the heart. In one case a pulse of 48 was increased to 144 by atropine. In a man aged seventy-four years, with cardiac dilatation and a pulse of 28, atropine raised the pulse for a short time to 33. In a case of general arteriosclerosis, however, the drug only raised the pulse from 40 to 45. When by atropine we can exclude any extra cardiac cause of bradycardia, the increased rate of cardiac pulsation, caused by the atropine injection is a direct measure of the energy of the automatic cardiac centres. Atropine increases the rapidity of the pulse much more in young than in old persons. Generally the pulse reaches its greatest rapidity in twenty to thirty minutes after the injection of atropine.

Opitz[6] records two interesting cases of slow pulse for which no explanation could be found. The first was a case of pneumonia in a

strong middle-aged workman. At the height of the attack the pulse was only 60, and during convalescence it fell to 40. It did not rise above the latter figure when the man resumed his laborious occupation. The second was a woman of seventy-eight years, in good health considering her age, who had a pulse of from 28 to 30 for three months. She then had gastritis, and her pulse fell to 20; with this pulse she complained of headache and dizziness, though the radial pulse was full and strong. There were no physical signs of cardiac disease. Six months later the pulse rose to 80 and there remained.

The subject of position during the examination of the heart has been discussed at some length by Azoulay[7], of Paris. He considers what he calls "the raised position" the best. The indications thus obtained are more precise than in other postures. The patient is placed absolutely horizontally with a hard bolster under the neck to raise the head only. The arms are then crossed above the head, the knees are raised and kept together and the heels brought as close as possible to each hip-bone. This position must be assumed without any abrupt movement and without effort on the part of the patient, and auscultation is only to be practised after complete muscular relaxation has been obtained. This posture has the effect of slowing the contractions of the heart and intensifying the heart sounds. It causes abnormal heart sounds to appear, and to be heard with distinctness, which could not be heard at all were the patient simply lying down, or in the sitting or standing posture. The intensity and clearness of these abnormal bruits are increased, the pulse is usually slowed, and thus it is possible to tell just when the abnormal sound begins. This position presents some dangers in cases of pulmonary congestion or œdema, and in degenerative conditions of the heart.

Campbell[8] also believes that nearly all murmurs are louder when a patient is lying down than when he is sitting or standing. He presents statistics of one hundred examinations of soldiers in Michigan, which are as follows: Total number in which the murmurs were increased during dorsal decubitus, seventy-eight; murmurs not affected by change of body, twelve; murmurs not perceptible on standing, but developed on lying down, four; murmurs more developed in upright than in recumbent position, six.

Richardson[9] describes a novel and interesting method of intra-thoracic auscultation. He passed a soft rubber stomach tube down the œsophagus and attached the end of the tube to his stethoscope. On withdrawing the tube until its opening came in contact with that portion of the œsophagus which lay in immediate contact with the heart he was able to hear both heart sounds as clearly as in the

normal heart, although on previous ordinary auscultation of the same case he had failed to hear the cardiac sounds, owing to the heart's action being very feeble. By moving the tube up and down he found that he could get the second sound separately from the first, and *vice versâ*. The respiratory murmur, however, could not be heard as distinctly as from the chest wall outside. Richardson suggests that by this method the diagnosis of clot on the right side of the heart might be made clear, and the differential diagnosis of right or left valvular disease ought to be rendered absolute. A clear distinction should be obtained between pericardial and endocardial sounds, and between pericardial and pleural friction. Aneurismal pressure on the œsophagus should be instantly diagnosed, as we should hear the pulsation at the stricture. In this latter connection we might refer to the ingenious suggestion of Schnell[10]. A long stomach tube, closed at its lower end with a glass tube attached to its upper end, is filled with a coloured liquid. The tube is introduced into the œsophagus, and if an aneurism is present it will act as a manometer, the pulsations being transmitted to the fluid in the tube.

Therapeutics of Heart Disease.—Germain Sée[11] has found **Theobromine** a powerful diuretic in severe cases of cardiac dropsy. In one, in which there was much œdema and only half-a-pint of urine passed in twenty-four hours, a dose of 45 grains raised the amount of urine to two pints, and further doses up to a drachm on two succeeding days raised the amount to nearly ten pints. The œdema completely disappeared. Sée strongly advises the use of pure theobromine, and not the mixture known as diuretin, which contains about 60 per cent. of theobromine along with salicylate of sodium. Theobromine acts directly upon the kidneys, and sometimes produces considerable albuminuria without any poisonous effects. Its diuretic action continues some twenty-four hours after the dose has been given. It does not irritate the stomach or excite the nervous system. It is not cumulative, nor does it lead to any habit requiring increased doses. It is insoluble and had best be given in small powders. The total dose for the first day may be about 30 grains, which may be raised on the following day to 60 grains. After that it should be reduced to about 30 grains a day.

Cohnstein[12], who has been experimenting on dogs and rabbits in Von Schrädu's laboratory at Heidelberg, is, however, inclined to conclude that the diuretic effect of the drug is to be traced to a direct stimulation of the kidneys, and he considers the improvement in the blood pressure, and therefore of the pulse, as secondary effects

resulting from the improvement of the circulation which naturally follows the disappearance of œdema.

Opinions appear to differ as to the efficacy of **Diuretin** in heart affections, since its action depends solely upon its ability to stimulate the secreting epithelium of the kidney, but it is probable that the drug is useful in all conditions of dropsy, whether due to cardiac disease or renal inactivity. E. de Renzi[13] has employed diuretin successfully in numerous cases of œdema, more or less generalized, and especially in a case of mitral insufficiency with relative insufficiency of the tricuspid valve—a case in which digitalis had not had any appreciable effect. He gives 45 to 90 grains a day at intervals of two or three hours.

Masius[14] reports the successful treatment by diuretin of twelve cases of valvular disease of the heart with considerable œdema. In two cases only there was no relief, and in one of these the œdema increased. In both of these cases digitalis was successful in removing the œdema. In several of the cases in which diuretin succeeded, digitalis and strophanthus had been tried without effect. The amount of diuretin employed was from 1¼ to 1¾ drachms daily. From his observations Masius concludes that diuretin is an energetic diuretic. It augments the quantity of water eliminated and also increases the solid constituents of the urine. The diuretic effects are ordinarily manifested at the end of twenty-four hours and continue under the influence of the same doses. The diuresis becomes less active after the disappearance of the œdema. The drug gives the best results in general dropsy, due to insufficient cardiac action. It frequently produces considerable effect when digitalis and other diuretics fail.

Hare[15] directs attention to the value of **Morphine** in certain cases of cardiac disease, either mitral or aortic.

Hare has, however, seen harmful results follow its use in cases which seemed absolutely without contra-indications.

Hervouet[16] has recorded in the "Bulletin Médical" the results of his studies upon the action of morphine in cases of mitral insufficiency. All authors are agreed as to its value in aortic stenosis and insufficiency. His conclusions are that in mitral lesions when other means fail, morphine may be tried in order to calm the dyspnœa and nervous symptoms and to induce sleep. In certain cases where cardiac remedies are of no service, or even injurious, morphine will calm and stimulate, easing the dyspnœa and causing the other remedies to act. If used in asystole it is well to combine digitalis with the morphine. **Caffeine**, on account of its stimulating action on the heart, is of especial use in replacing the injections of morphine when it is desired that the patient should not become habituated to its influence.

It may be employed at the same time as the morphine. Morphine should be used in every case with great prudence. More than $\frac{1}{6}$ of a grain should not be given at a time, often half that amount will be sufficient.

Heitler[17] considers the subcutaneous injection of **Morphine** and **Ether** the most rational treatment of severe cardiac dyspnœa. The regular cardiac drugs act too slowly. He regards morphine as a certain and unique remedy for dyspnœa. In mild attacks the morphine and ether may be given internally and the skin excited by flagelation with cloths wet with cold water. The dose of morphine should be rather small to begin with; $\frac{1}{20}$ to $\frac{1}{12}$ of a grain. Injections of ether should be repeated if the pulse continues small.

Liégeois [18] strongly recommends the tincture of **Piscidia Erythrina** for the relief of the prolonged or continuous painful sensations of the heart often met with in cases of chronic myocarditis or endarteritis; in gouty subjects; the aged; or in the tobacco heart. In several cases piscidia proved quite as analgesic as antipyrin. It afforded rapid and lasting relief, and in doses of 20 drops morning and evening was free from any objectionable features. The tincture does not keep well, and therefore it should be prepared only in small quantities. As much as 80 drops daily may be given and continued for a month without interruption.

Poulet[19] thinks that **Coronilla** is worthy of extended trial. He has used the drug in a large number of cardiac cases. As a result of his great and unexpected success he is convinced that coronilla is superior to digitalis, and that it is capable of rendering good service when digitalis has failed or is harmful. It is useful in combating various reflex disturbances, as vertigo, paroxysmal tachycardia, dyspepsia, and the like. It is suited to debilitated, nervous cases, especially, on account of its property of aiding digestion. The tincture of the entire plant, of the strength of 1 to 5, is most commonly used, the daily dose being from ½ to 1 fluid drachm. A powder is also made from the flowers, of which 15 to 30 grains a day are given.

REFERENCES.—[1]"Amer. Journ. Med. Sci.," Jan., 1893; [2]"Vorlesungen über die Krankheiten des Herzens," iii., 1892; [3]"Berlin. klin. Woch.," No. 40, 1892; [4]"La France Médical," Jan. 6, 1893; [5]"St. Petersburger Med. Woch.," Jan. 4, 1893; [6]"Medicinishe Monats.," April, 1893; [7]"L'Union Médical," June 11, 1893; [8]"Journ. of the Amer. Med. Association," July 30, 1893; [9]"Med. Record,' Nov. 19, 1892; [10]"Münchener Med. Woch.," Munich; [11]"Le Progrès Méd.," Aug. 1, 1893; [12]"Lancet," Nov. 29, 1892; [13]"Medical Abstract," July, 1893; [14]"Ibid.," Feb., 1893; [15]"Therap. Gaz.," No. 8, 1893; [16]"Canada Lancet," No. 2, 1892; [17]"Journ. de Méd.," June 12, 1893; [18]"Medical Age," June 25, 1893; [19]"Bulletin Médical des Vosges," Jan., 1893.

Synopsis.—(Vol. 1893, pp. 261 and 540.) Fraentzel gives **Alcohol** and **Quinine** in malignant endocarditis, the latter in doses of 7½ to 15 grs. in capsule two or three times a day. For senile heart **Moderate Exercise** is useful, and the following rules for diet: (1,) Not less than five hours between each meal; (2,) No solid food between meals; (3,) The most important meal to be taken in the middle of the day. The quantity of food in many cases must be restricted, and not diluted with too much water. Liebermeister advises assistance towards compensation by rest, a liberal supply of milk, and food not too rich in carbo-hydrates and fats; no alcohol, or very sparingly, and any coffee or tea taken must be weak, and largely diluted with milk. **Iron** and **Quinine** may assist. In patients with excitable hearts, **Baths** from 88° to 90° Fahr., and not lasting too long, do good; **Ma. nheim Salt Water Baths** are valuable. **Digitalis** is the chief remedy, and when it fails **Strophanthus** and **Convallaria** may help. **Calomel**, 3 to 4½ grs., two or three times a day, is an excellent diuretic; **Caffeine** acts both on heart and kidneys. **Squills** and the **Alkaline Salts** may also be thought of as diuretics. **Hydragogues** in dropsy are uncertain; **Diaphoresis** is successful in some cases; **Tapping** may be necessary. **Cold Applications**, *e.g.*, ice-bag to præcordia for a short time is useful for excited action; also **Luke Warm Baths.** For a failing heart, **Alcohol, Camphor, Strong Coffee,** with **Rum** or **Cognac,** and hypodermic injections of **Camphorated Oil** or **Ether** may be adopted, and in great circulatory disturbance, **Venesection** may succeed when all else fails. **Nitro-Glycerine** may be valuable when degeneration of myocardium exists with valvular lesions. Balfour shows that aortic regurgitation is amenable to **Digitalis** when compensation fails, but three times the dose is often required to produce an equal effect, compared to that required in mitral lesions. Vespa finds **Milk Sugar** a valuable diuretic in cardiac disease.

HEAT STROKE. *Græme M. Hammond, M.D., New York.*

Coplin and Bevin[1] gives the following directions for treatment: "Increase the peripheral circulation." Anything that will accomplish this end will help the patient. Make the skin intensely red, and strengthen the pulse. The patient will immediately feel better, and in most cases the consciousness will at once return. In the treatment of their cases large undressed sponges, gritty and hard, were freely used by two muscular attendants. Redness of the skin was secured in from three to fifteen minutes. The remedies given were **Atropine,** hypodermically administered, in doses of from $\frac{1}{60}$ grain to $\frac{1}{30}$ grain, the latter in two equal doses, with a brief interval. **Aromatic Spirits of Ammonia** acted well (given either by the mouth or hypodermically it made no difference) in doses of from ½ to 1 drachm in milk. **Morphine,** in doses of not more than ¼ grain, may be advantageously combined with either atropine or the aromatic spirits of ammonia. **Strychnine** is serviceable in cases in which there is great prostration or inordinate muscular weakness; nausea is best combated with cracked ice. In one case 3 minims of **Amyl Nitrite** were given by inhalation with the most happy results. The headache and cramps

immediately disappeared, and the temperature fell from 102·6° F. to 99° F. in a few minutes.

In all cases the routine treatment may be summed up as follows The patient's temperature was taken; he was then placed in a low bath-tub, in which the water was exactly the same temperature; he was rubbed with large gritty sponges until redness of the skin was induced; this was followed by the turning on of the spray, the impact of which maintained the counter-irritation. After five or ten minutes the patient was removed from the bath and thoroughly rubbed with the sponges. If the temperature had not sufficiently subsided, he was again placed in the bath, and the process repeated until the temperature was reduced to the neighbourhood of 100° F. In the meantime he was given, either by the stomach or hypodermically, $\frac{1}{20}$ grain strychnine, $\frac{1}{40}$ grain atropine, ⅙ grain morphine, and 20 drops of the tincture of digitalis, followed by a teaspoonful of aromatic spirit of ammonia in a glass of milk. The cases did well, and while the authors would not disparage the employment of the cold bath, they would insist that its efficiency must depend upon the energy of the friction to secure a cutaneous afflux of blood.

On the other hand the **Cold Spray** was found to be most beneficial. The temperature of the water used varied from 40° to 55° F., but the force with which it was applied enhanced its usefulness, as the process practically amounted to active flagellation without inducing pain, and was promptly followed by redness.

As soon as active treatment was discontinued, or when practicable during its continuance, the patient was kept beneath the cool-air blast. One who has never seen the benefits of such a blast can appreciate its utility. Under active friction of the skin in the air-blast in many cases the temperature promptly subsided.

REFERENCE.—[1] "Therap. Gaz.," Jan. 16, 1893.

HECTIC FEVER.

Synopsis.—(Vol. 1893, p. 44.) Connheim found **Phenocoll Hydrochlorate** useful, 4 to 15 grains for a dose.

HEPATIC COLIC.

Synopsis.—(Vol. 1893, p. 273.) Ferrand advises **Glycerine**, 20 to 30 grammes, to bring attack to an end, and 5 to 15 grammes daily in a little alkaline water to prevent fresh attacks. If no vomiting is present, Lemoine gives; ℞ Syrupi Acaciæ ʒiv; Æther. Sulph. ʒj; or, ℞ Chloroformi ♏ 15; Tinc. Myrrh. ♏ 15; Mucil. Acac. ʒij; Syrupi ʒiijss. Sig. A tablespoonful of either every fifteen minutes. If vomiting is urgent, give small pieces of **Ice**, **Sedative Drinks**, and minute quantities of **Cold Beef Tea** or **Milk**. A **Turpentine Stupe** may be applied to the abdomen, and covered by a rubber cloth to retain moisture,

or dry heat may be used. Liniments are useless, and mustard plasters may injure the skin, but prolonged and very **Hot Baths** are serviceable. Lemoine uses the following suppositories: ℞ Ext. Belladonna, Ext. Opii. āā gr. ½; Ol. Theobrom. ʒjss; Ft. Suppos.; or, ℞ Ext. Opii gr. ⅛; Pulv. Castor. gr. 15; Ol. Theobrom. ʒj; Ft. Suppos. Ralfe considers that turpentine increases colic in acute cases, but probably prevents the tendency for calculi to form.

McCourt considers **Olive Oil** specific, and may be assisted by **Morphia** hypodermically. A 3 ounce dose of oil is given, and patient lies on right side with pelvis raised, and on the following morning a brisk cathartic is said to evacuate the gall stones. Jean Beaumetz gives 200 grammes of **Oil** with 20 grammes of **Ox-gall**; he also recommends **Salicylate of Soda** and **Salol**, associated with **Salicylate of Bismuth**, prescribing also a vegetable diet, abstinence from alcohol, and use of alkaline waters. Nissen finds that **Alkalies** lessen the formation of bile, and have a solvent action on the mucous membrane, which constricts the bile ducts; he advises the association of **Potassium Acetate** with **Carlsbad Water** in jaundice.

HERNIA. *A. W. Mayo Robson, F.R.C.S.*

The literature of the past year shows the inexhaustible interest of the subject, and although abdominal hernia is one of the most familiar of diseases it seems capable of such endless modifications of treatment as to always afford profitable study.

Radical Cure.—The interesting discussion at the British Medical Association Meeting, at Newcastle, elicited the views of many surgeons, who all practically agreed that where a hernia cannot be retained easily, painlessly, and with certainty by means of a truss, it should be operated on with a view to bringing about a radical cure; and that in all cases of strangulated hernia, the operation should always include an attempt at radical cure[1].

Mr. Rushton Parker's tables of two hundred and ninety-one cases, and Mr. Bank's of one hundred and sixty-eight cases, the former published in the "Prov. Med. Journ.," for Aug., 1893, and the latter in the "Brit. Med. Journ.," for Nov. 11, 1893, are well worthy of study, and the most recent statistics of a number of leading surgeons compiled by Sir. Wm. MacCormick, and given in the Bradshaw Lecture, "Lancet," Dec., 1893, show that out of seventeen hundred and sixty-nine cases the average proportion of relapses only amounted to 7·15 per cent.

With regard to the method best calculated to secure a permanent cure, Czerny's original procedure has been modified by Banks, Ball, MacEwen, McBurney, Barker, Halsted, and others, the best result being now obtained by the method which secures obliteration of the neck of the sac within the internal ring, separation of the cord from the sac, the removal or ligature of all the veins of the cord except one or at most two, the formation of a new channel for the vas deferens, the

obliteration of the inguinal canal by layer to layer approximation of its incised margins, and lastly the careful suture of the superficial structure, the whole being carried out under such antiseptic or aseptic precautions as will secure primary union. This is the method which with slight modification is known as Bassini's, Postempski's, or Halsted's. See illustration (*Fig.* 39).

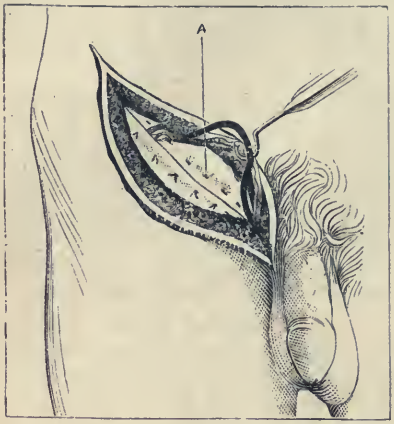


Fig. 39.—Deep sutures tied. (Halsted's operation.)

Of late I have employed no other, and although the operation appears to be rather a severe one, the results are so satisfactory, both with regard to the immediate and ultimate effects, that I can with confidence recommend its adoption. A full description of the operation is given in the "Annals of Surgery," for May, 1893. It is not necessary to recommend the wearing of a truss after operation.

Thiriar[2] uses a decalcified bone plate to strengthen the wall in the radical cure of hernia: he places it between the stump and the abdominal wall.

Dr. Bull[3] employs the form of truss, known as Knight's, in all cases of reducible hernia, except umbilical and ventral. The truss is an "opposite side" truss; the spring extending three-fourths the distance around the pelvis is applied to the sound side, and is held in place by a strap connecting the two ends of the spring. The diagrams (*Figs.* 40–42), show the different forms of the instrument. The pad of soft wood is covered with flannel and chamois skin, and is fastened to a steel shank two inches long projecting at right angles from the end of the spring.

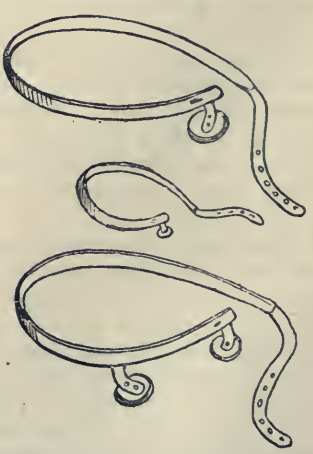


Fig. 40.—The "Knight" truss; single and double.

Radical Cure of Femoral Hernia.—Although in femoral hernia ligature of the neck of the sac as high as possible has usually proved satisfactory in the hands of most surgeons, a still further safeguard against recurrence has been suggested by Salzer[4], and by Watson

Fig. 41.—Frame truss-"hood."

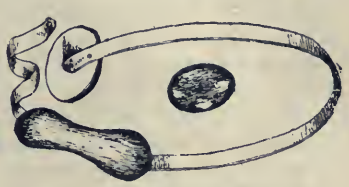


Fig. 42.—"Opposite side," or "cross-body" truss, with pad on end for inguinal hernia.

Cheyne.[5] The former reflects a portion of the fascia of the pectineus, and the latter surgeon employs a portion of the pectineus muscle itself to fill up the crural canal.

Radical Cure of Umbilical Hernia.—The method practised with the object of curing umbilical hernia are practically two : (*a*,) Suture of the freshened edges of the umbilical ring ; (*b*,) Excision of the umbilical cicatrix. The latter is the more efficient operation, and the one I have always employed. Rochard[6] advocates this procedure, and believes it to be no more risky, and yet more efficient than suture of the freshened edges of the ring.

Congenital Hernia into the umbilical cord is not a common affection, yet Berger[7] reports two cases successfully treated by radical cure ; in one case on the second day and in the other on the fourth after birth, both being successful. The hernia had in each case no other covering than the structures of the cord : it included the cæcum with its appendix and part of the colon. Operation was difficult on account of adhesions. Three layers of sutures were used to close the opening.

Dr. Warren[3] has also described two cases, in one the liver formed the contents of the sac, in the other nearly the whole of the small intestine : both cases recovered.

Ventral hernia after abdominal section is often difficult to treat. There are two methods of operation practised : (*a*,) Simon inverts all three layers, and making raw surfaces on the skin unites them by suture ; (*b*,) Maydl resects the entire sac, and sutures each layer separately. We have found a free resection and a careful suturing of the aponeurotic layer to be the most successful procedure, and in the "Arch. de Gynec.," Aug., 1892, Goullioud advocates this method.

Strangulated diaphragmatic hernia has been operated on through the pleura with success by Postempski and others, and in the "Revue de

Chir.," Sept. 1892, the subject is discussed by Schwartz and Rochard, who advocate the pleural route, the abdominal method presenting serious difficulties and dangers.

Hernia of the vermiform appendix is not so rare as Thiery,[9] who reports one case, would lead one to suppose, as Brieger[10] has collected twenty-four cases; of these six were cases of simple irreducible, and eighteen were examples of strangulated hernia.

He draws the following conclusions: (1,) Hernia of the vermiform appendix occurs more frequently than is generally supposed; (2,) Though it is impossible to diagnose with certainty the condition of things in cases of strangulated appendix vermiformis, the surgeon may be led to expect such an event in instances of inguinal or femoral hernia on the right side, in which the symptoms of strangulation are mild and not well marked; (3,) The prognosis in cases of hernia of the vermiform appendix is not very favourable, as this process is frequently exposed to pathological changes which may cause complications; (4,) This form of hernia, even when strangulated, indicates prompt operative treatment, as the presence of the vermiform appendix in a hernial sac may at any time give rise to serious complications; (5,) Such operative treatment should consist in resection of the appendix and closing of the free orifice by sutures after inversion of its edges. The appendix should never be returned into the abdominal cavity unless it be quite sound. The author adds also to his list of cases two instances of hernia of the appendix vermiformis together with omentum, but he excludes all cases in which other portions of intestine were present in association with this process.

Obturator hernia is sufficiently uncommon to merit remarks when met with, and the case of successful operation by Dr. Hyman, reported in the "Ann. of Surg.," for Jan., 1893, is a good example of the cure of a strangulated hernia of this type operated on by an incision through the upper part of the thigh, the ring being notched inwards.

Subperitoneal lipoma simulating hernia is a well recognized surgical puzzle: the two cases reported by Mr. W. Anderson[11] show the difficulty of diagnosis until exposed by operation, when at the same time removal can be effected.

Accidents which may follow removal of omentum in hernia operations has formed the subject of a paper by Dr. Bull,[12] who besides drawing attention to the well known accident of hæmorrhage due to the slipping of a ligature, mentions cases of resolving inflammation of an omental stump; abscess occurring three months after operation; and peritonitis starting from the stump. The subject has not received much attention hitherto, although it is worthy of notice. I had a case of resolving

inflammation of the omental stump a few months ago, which produced so marked a swelling in the lower abdomen that I felt it wise to re-open the wound, in order to see if there was anything that required further treatment; finding only thickened and inflamed omentum I closed the wound again and all went well, there being no suppuration from beginning to end of the case.

Gangrenous hernia formed the subject of a discussion at the Roy. Med. and Chir. Soc. on March 28, 1893, when Mr. Kendal Franks proved by the statistics of two hundred and twenty-two cases from all sources, that the old operation of making an artificial anus was fatal in 80 per cent of the cases, whereas immediate resection and suture had a mortality only of 48 per cent. This view was supported by others who took part in the debate, and with this decision we heartily agree, except in those cases practically moribund, where anything but simple incision is out of the question.

In resection, the following points should be borne in mind: (1,) The utmost expedition; (2,) The non-infection of the peritoneal cavity; (3,) Excise well above the gangrene; (4,) Unite the two ends of the bowel securely.

Mr. Makins[13] relates a case in which he excised the greater part of the transverse colon, that had undergone gangrene after torsion in the sac of an umbilical hernia. An artificial anus was established, and the patient made a satisfactory recovery, although she was seventy-nine years of age.

Abdominal section for hernia may be called for in certain doubtful cases, and in reduction *en masse*. In the "Practitioner," for June, 1893, I published three cases in which I had operated by laparotomy, the patients all recovering. One was a case of Richter's hernia not evident externally, one an umbilical hernia where a band had constricted a loop of gut, and one a case of reduction in mass, where the presence of a reducible lump in the inguinal canal simulated the hernia, which was known to exist previously, and which the patient had himself reduced before being seen. On opening the abdomen, a *reductio en masse* was found, and a lump of subperitoneal fat formed the reducible tumour simulating the hernia.

REFERENCES.—[1]"Brit. Med. Journ.," Nov. 11, 1893; [2]"French Congress of Surgery," April 3, 1893; [3]"Ann. of Surg.," May, 1893; [4]"Centralb. fur Chir.," Aug. 20, 1892; [5]"Lancet," Nov. 5, 1892; [6]"L'Union Médicale," Nov. 13, 1893; [7]"Rev. de Chir.," Oct., 1893; [8]"Trans. Amer. Surg. Assoc.," 1893; [9]"Bull de la Soc. Aust. de Paris," July, 1892; [10]"Arch. fur klin. Chir.," Band 45, Heft. 4; [11]"Lancet," Oct. 14, 1893; [12]"Ann. of Surg.," March, 1893; [13]"Lancet," April 29, 1893; W. H. Bennett, "Clin., Lect., on Abdominal Hernia,"

Longmans, 1893; Borella, "Ann. of Surg.," Feb., 1893; Hutchinson's, "Archives," Oct., 1893, "Taxis;" Alrik. Lind., Statistics of Hernia Operations in the Sahlgren Hospital, "Hygeia," Nov. 2, 1893; G. R. Fowler, "Ann. of Surg.," Jan., 1893, Radical cure of hernia; Milliken, "Bassini's Method of Radical Cure, "Medical Record," July 2, 1892; Kocher, "Radical Cure." "Ann. of Surg.," Dec., 1892; O'Hara, "Radical Cure," Brit. Med. Journ.," Dec. 10, 1892; C. B. Lockwood, "Radical Cure," "Lancet," Nov. 25, 1893; Butz, "Treatment of Gangrenous Hernia," "Centralblatt. fur Chir.," No. 41, p. 842; Makins, "Torsion of Colon in the Sac of an Umbilical Hernia." "Resection of the Grangrenous bowel," "Lancet," April 29, 1893.

HERPES. *T. Colcott Fox, M.B.*

In the treatment of herpes genitalium, Monin advises the washing of the affected parts, if moist, with a 1 per cent. **Carbolic Solution**, afterwards dusting with a powder composed of pulverized amylum, 100 parts, tannin, 5 parts, bismuth salicylate, 1 part. As preventive measures he enjoins: (1,) Cold douches for thirty seconds to the lumbar spine twice weekly; (2,) Careful cleansing of the glands and prepuce night and morning; (3,) Moral purity.

In herpes ophthalmicus, Boursoiye advocates the cleansing of the part with **Boric Acid Solution** and afterwards dusting with a powder composed of ʒj each of subnitrate of bismuth, and powdered starch to which 7½ grains of iodol or aristol are added. The part may then be dusted with cotton wool or gutta percha tissue.

Jonathan Hutchinson believes that in cases in which herpes has been frequently recurrent, the continned use of **Arsenic** will—with a few exceptions—definitely prevent such recurrences.

REFERENCES.—Monin, "Journ. de Méd de Paris," 1892, No. 25; Boursoiye, "Deutsche Med. Itg.," 1892, No. 92; J. Hutchinson, "Archives of Surg.," July, 1893.

HICCOUGH.

Dr. Gallant reports a case of persistent hiccough due to gastric irritation, which at once yielded to **Gastric Lavage** after the failure of cocaine hydrochlorate, pilocarpin, etc.

REFERENCE.—"Med. Record," August 19, 1893.

Synopsis.—(Vol. 1893, p. 284.) Leloir found that **Digital Compression** of the phrenic nerve, kept up for three minutes, cured after failure of all drugs.

HIP JOINT (Operation for Old Unreduced Dislocation of).

W. Arbuthnot Lane, F.R.C.S.

In this paper I give briefly particulars of a new operation for old unreduced dorsal dislocation of the hip joint, or for the similar congenital variety, with important suggestions as to an improved

PLATE XV.

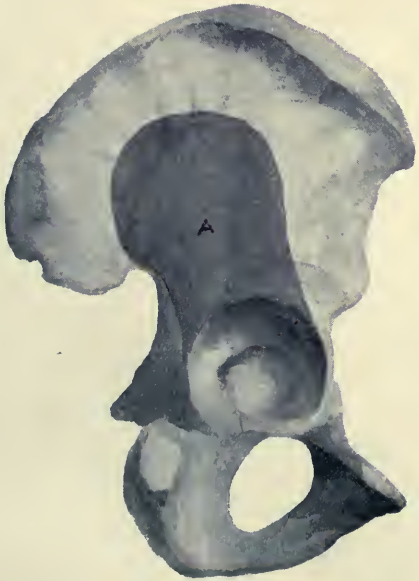


Fig. A.

Fig. B.

method of treating fractures, excisions and erasions of the lower extremity.

Recently, I performed a novel operation upon a case of unreduced dorsal dislocation of the head of the femur of three years' standing in a lad aged seven, which was most successful in its results.

When the boy was made to occupy the recumbent posture, the right leg was two inches shorter than its fellow, the thigh was rotated slightly inwards, and could not be rotated outwards. On getting him to stand, the shortening was increased still further by an inch, the great trochanter projected upwards, backwards and outwards, and there was very marked lordosis. On getting him to walk he did so with difficulty and insecurity and in an ugly shuffling manner, the pelvis rotating very considerably round an oblique axis as he threw his weight on the shortened limb. On putting him on his back and flexing the thigh forcibly, the head of the bone glided downwards over the surface of the ilium until it occupied the normal position of the acetabular cavity, but the slightest diminution in the degree of flexion of the hip joint was followed by the ascent of the head of the bone on to the dorsum ilii.

I determined to replace the very loose arthrodial joint which existed behind the transverse axis of pelvic rotation by a secure one in front of this axis immediately beneath the anterior inferior spinous process.

I did this in the following manner: A vertical incision about four inches long was made along the inner margin of the tensor vaginæ femoris, and through it the gluteus medius and minimus were divided near their insertions together with the greater part of the gluteus maximus with any portion of the fascia lata in this region that was tense. Then the iliacus, rectus, pectineus and the upper part of the adductor muscles were divided at their attachments to the femur through the same incision. The adductors and hamstrings were cut through subcutaneously near their origins. The head of the bone was felt for and exposed. It was found to be much flattened, being mush-room shaped. It articulated with a smooth elongated articular surface on the dorsum of the ilium, which was directly continuous below with a flattened and altered acetabular cavity. The outline and position of this surface is indicated by the shaded portion A, in *Fig. A, Plate XV.* It was obvious that the head of the bone could not be retained in the cavity owing to the resistance offered by the structures, which of necessity still remained undivided.

The thigh was then adducted and forcibly rotated outwards till the head of the bone was made to project forwards and inwards instead of backwards and inwards as before. A concavity was cut with a gouge

in the ilium immediately beneath and encroaching upon the anterior inferior spinous process in the position A, *Fig. B.* The flattened and enlarged head of the femur was trimmed down to something less than its normal size, and was rendered somewhat ovate, so that it would the more readily fit the concavity cut in the ilium, into which it was then placed. The anterior ligament of the hip joint which was elongated was cut through and shortened up, the ends being accurately and firmly sutured.

A Thomas' hip splint was applied, the thigh being retained in such a position of outward rotation that the inner margin of the foot formed with the vertical an angle of 45°.

Nothing could have been more satisfactory than the result. The boy obtained a perfectly secure joint which allowed of no vertical play whatever, but of very free flexion and adduction with a moderate amount of abduction. When the shortening, which amounted to less than an inch, was compensated for, there was no lordosis ; indeed the lumbar spine was, if not perfectly normal, but very slightly flexed during locomotion, the pelvis being influenced symmetrically both as regarded its transverse and antero-posterior axes of rotation by the mode of transmission of force through the newly developed ilio-femoral joint. It is hardly necessary to point out that the same operation would apply with equal success to that form of congenital dislocation of the hip in which the head is dislocated backwards on to the dorsum ilii and the trochanter is thrown forward ; in fact, the dislocation in the boy's case simulated exactly this condition.

The principle of the operation was arrived at in the following manner. While I was working at the mode of transmission of force through the pelvis in the various laborious occupations, I examined several cases of intracapsular fracture of the neck of the femur in labourers and found that when a loose amphiarthrodial joint or an arthrodial one formed between the fragments, there was very considerable tilting of the pelvis around an oblique axis with consequent lordosis owing to the joint being behind the transverse axis of pelvic rotation, and the condition of the body showed a very considerable depreciation in the individual's physical capacity. In one case I found that while the head of the bone remained in the acetabular cavity the thigh had been rotated outwards to an angle of 55°, and the stump of the neck of the femur had formed a very strong and secure amphiarthrodial joint immediately beneath the anterior inferior spine in the position in which I made the new joint in the operation just described. In that case the individual had a shortening of about three-quarters of an inch which had been unaccompanied by any

lordosis and had interfered but very slightly with the capacity to do hard work.

But a little consideration of the mechanics of the pelvis and hip joint will serve to demonstrate the immense advantage of forming a joint in front of the transverse axis of pelvic rotation where it is impossible to obtain a thoroughly secure one in the acetabulum, and it applies equally to operations such as excision of the hip joint, as to the case of a dorsal dislocation.

I also wish to point out that when an individual lies at rest in the supine position, the thighs are so placed that the inner margins of the feet contain between them a right angle, and that if, in a dead body, the neck of the femur be divided immediately beneath the head, and the thighs be rotated inwards till the inner margins of the feet lie parallel to one another, which is the position in which the leg is put up in fracture in the same situation, the diaphysial extremity of the neck is displaced backwards and upwards on to the dorsum, while if the thigh be placed in its normal position of rest, the stump of the neck rests against the head. If the thigh be rotated outwards beyond the position of rest, the neck is displaced forwards beneath the anterior inferior spine, immediately in front of and above the transverse axis of pelvic rotation, its movement in this direction being limited by the capsule of the joint if this has not been divided. This applies not only to division of the neck of the femur, but also to that of the shaft of that bone, or of both the tibia and fibula, and also to excisions and erasions of the knee and ankle joint. In all these fractures and operations I have seen only harm result from following accurately the accepted surgical teaching of the present day. I assert that the position in which these several conditions are put up by surgeons, namely, with the whole leg or part of it in a position of considerable inward rotation (which is of course the case when the foot is so placed that its inner margin lies vertical to the horizontal plane, a posture necessitated by the angle at which foot pieces are attached to splints), is bad both in principle and in practice, and tends to produce much deformity, and sometimes non-union of fragments results, of both which conditions I have seen many instances. In order to illustrate the truth of this most important surgical principle I will confine myself to the case of the hip joint. I have found that such cases of intra-capsular fracture, as I have examined after death, in which good bony union has ensued between the head and neck, or in which a secure and most useful joint has formed between the neck and innominate bone immediately beneath, the anterior inferior spine had the thighs rotated outwards to or about or beyond the position of rest. I will

illustrate this by two cases of intra-capsular fracture of the neck of the femur in young subjects which have been under my care, in both of which the fracture had escaped the observation of the surgeons at the time of the accident, and in which the patients were, therefore, fortunate enough to avoid the routine treatment to which they would otherwise have been subjected. The thigh was allowed to occupy a position of rest, or, in one case, to rotate a little beyond it by the weight of the limb, with most satisfactory results in both. I would strongly urge surgeons to reconsider the customary treatment pursued in such surgical conditions of the lower extremity as involve the mobility of one of its sections upon another, namely, that of placing the lower segment in an active position of considerable inward rotation, while the upper segment assumes a passive position of rest which is determined chiefly by the powerful anterior ligament of the hip joint. In intra-capsular fracture of the head of the femur it is better to retain the neck in contact with the head and attempt to get bony union, and if this does not occur a secure joint can be obtained in front of the transverse axis of pelvic rotation, which is infinitely better than an insecure one behind it. These results can be readily brought about by putting the thigh up in the position of rest or by rotating it outwards beyond this position, the foot piece of the splint being arranged at such an angle as to secure this, and extension being used to obviate any shortening. I would point out that the objects of extension are : (1,) To overcome the tonic contraction of the muscles about the fracture ; and (2,) To extend the muscles which have been shortened by extravasation of blood beneath them and into their substance, the bony fragments over-riding one another in consequence, till the blood has been absorbed. The first result is obtained in a few hours, the latter requiring at times as long as a fortnight. Also after excision of the head of the femur an attempt should be made to form a joint beneath the anterior inferior spine in the same manner as was followed in the old dorsal dislocation.

HYDROCELE.

Synopsis.—(Vol. 1893, p. 285.) Dobrokhotoff concludes that the **Iodine** treatment is safest and best. He uses the Russian tincture (1 part iodine to 10 parts 95% alcohol). Ebermann prefers **Incision** into the tunica vaginalis, except when it is much thickened, or the dropsical contents are opaque, or if the enlargement is very great. Küzmin prefers **Tapping** and **Irrigation**, with 3 or 4 per cent. **Carbolic Acid Solution**, this method being painless. Millikin has successfully used liquified crystals of **Carbolic Acid**, injected after thorough evacuation of the fluid (not more than 30 minims are used). Eve uses 8 parts **Carbolic Acid** to 1 part **Glycerine**.

HYPEREMESIS GRAVIDARUM.

Synopsis.—(Vol. 1893, p. 287.) Cohnstein advises large doses of Potassium Bromide, to be discontinued if the sickness does not yield after a few doses.

HYPERIDROSIS. *T. Colcott Fox, M.B.*

The following dusting powder is recommended :—

℞ Washed Sulphur ℥ss | Salicylic Acid gr. vij
Powdered Arrowroot ℥iv |

Sig.—To be dusted over the feet and between the toes.

Kaposi is said to prefer :—

℞ Finely pulverized Talc, 20 grammes
Pulverized Subnitrate of Bismuth, 25 grammes
Pulverized Permanganate of Potash, 1·50 grammes
Pulverized Salicylate of Soda, 1 gramme
Mix with great care.

REFERENCES.—"L'Union Méd.," Nov., 1892 ; "Rev. gén. de clin. et de Thérap.," Aug. 16, 1893.

HYPERTRICHOSIS. *T. Colcott Fox, M.B.*

The removal of hairs by **Electrolysis** is an operation with which an increasing number of medical men are becoming familiar, and it is well that such is the case, seeing the large number of persons, not medically qualified, who also practise the operation. With patience and the requisite skill and experience remarkably good results are very frequently attained, but on the other hand there is a wide scope for the inexperienced and unskilful to produce the greatest disfigurement.

The increase in the number of operators accounts for articles setting forth the varied experience, but not adding much to our previous knowledge. These articles discuss chiefly the best kind of needle, and holder, the number of hairs extracted per hour, whether the hair should be pulled out before the current is passed, or afterwards, etc. In these matters there is room for some variety of procedure.

Dubreuilh removed in one case on an average one hundred and twenty-four hairs per sitting, and on one occasion two hundred and fifty hairs in an hour and a quarter. He employed a current of 10 milliampères' intensity, and brought about a local anæsthesia by hypodermic injections of cocaine. Brocq remarks that these results are not new. He only needs currents of from 4 to 6 milliampères' intensity, and he has given up subcutaneous injections.

Morison of Baltimore says a good depilatory answers the purpose of removal of superfluous hairs much better than electrolysis, but in this conclusion few will agree. He uses equal parts of **Yellow Sulphide**

of Arsenic and **Quicklime** made into a paste with hot water and allowed to dry on the hairy skin. It removes the hair for ten to twenty days and, he adds, sometimes permanently.

Robert Abbe, in presenting a boy to his class with a large hairy pigmented mole of the cheek and nose, discussed the methods suited for its removal. Firstly, the actual cautery probably causes more scarring than any other method. Secondly, the use of caustics is followed by a variable, but considerable, amount of scarring depending largely on the particular caustic employed, *e.g.*, Vienna paste, arsenical paste, perchloride of antimony, nitric or sulphuric acid, charcoal paste, etc. Ethylate of sodium, best applied by a camel's hair brush, often leaves a soft and non-contractile scar. Thirdly, small moles on the body or face, the size of the finger nail, can often be removed by an elliptical incision, which is preferable to all other methods if the growth be not too large. The edges are to be united by many very fine sutures. The lecturer might have added dissection, especially with the advantages derived from modern methods of skin grafting.

Further, yet another course is illustrated by the successful removal of an extensive raised hairy nævus of the cheek by electrolysis. G. H. Fox used a fine flexible steel needle, connected with the negative pole, and introduced carefully across the most superficial part of the tumour. This was repeated till the nævus was level with the healthy skin and till the pigmentation and some of the hypertrophied hairs had disappeared. The remaining hairs were then attacked separately in the usual manner. The intensity of the current employed was 3 to 5 milliampères, and the proceeding extended over four years.

REFERENCES.—B. Squire, "Superfluous hair and the means of removing it," F'cap., 8vo; Sorenson, "Med. News," Sept. 30, 1893; Levisseur, "Med. Record," Feb. 20, 1892; Brocq, "Journ. Cut. and Gen-Urin. Dis.," Sept., 1892; Morison, "Amer. Dermat. Assoc.," 1893; Abbe, "Inter. Clinics.," 2nd sér. vol. iv, 1893; G. H. Fox, "Journ. Cut. and Gen-Urin. Dis.," May, 1893; Stern, "Therap. Monatsh.," Aug., 1893.

HYPOPYON KERATITIS.

Synopsis.—(Vol. 1893, p. 289.) A 2 per cent. solution **Fluorescein** is useful to stain the ulcer and determine its size and shape. The **Galvano-cautery** gives best results, but if the ulcer still spreads, either **Paracentesis** or a **Sæmisch Incision** will be required. **Hot Fomentations of Boric Acid**, or **Perchloride of Mercury**, together with an ointment of **Eserine**, 1 gr. to Hyd. Ox. Flav. 8 grs., which may be used once or twice daily. If iritis be present, **Atropine** is substituted for **Eserine**. A **Pacquelin Point** answers nearly as well as the galvano-cautery. The ulcer may be scraped with a small sharp steel spoon, or touched with **Nitrate of Silver** or **Perchloride of Mercury Stick**, irrigating eye with 1 in 1000 **Mercury Lotion**, or **Iodoform** may be applied.

HYPOPYON ULCER. (See "Eye.")

HYSTERIA. *Græme M. Hammond, M.D., New York.*

Weir Mitchell[1] reports several cases of hysteria in which a peculiar rapid breathing was a prominent symptom. The breathing is largely upper costal, sometimes exclusively so. It is rare to find the relative share, as between chest and diaphragm, preserved. As a rule the breathing is slight in amount, that is, superficial, but without appearance of effort. Usually, or early in the case, the patient is ignorant of the existence of this symptom. When this knowledge is once acquired the respiration rate is increased by excitement, even by the mere approach of nurse or doctor. The number of respirations goes up and down rapidly, and without any marked coincidal change of pulse.

REFERENCE.—[1] "Braith. Ret. of Med."

INEBRIETY.

Synopsis.—(Vol. 1893, p. 292.) Moyer believes that no drugs will allay craving, except such as are intoxicants, *e.g.*, **Strychnia, Atropia** and other alkaloids. Coca and cinchona should not be given in such doses as to make them substitutes for alcohol; **Chloral** and **Bromides** are useful sedatives. Mann advises **Restraint,** rest in bed, and frequent administration of **Nutrient Tonics and Sedatives;** also prolonged **Warm Baths,** with cold to the head, and the hypodermic injection of **Hyoscine Hydrobromate** $\frac{1}{100}$ gr., and, to invigorate the system, central **Galvanization** and general **Faradization** are employed.

INFANTILE SYPHILIS.

Synopsis.—(Vol. 1893, p. 292.) Moncorvo advises subcutaneous injection of **Mercurial Salts,** with strict antisepsis. He prefers gray oil among the insoluble; and **Corrosive Sublimate** of the soluble salts.

INFLUENZA.

Shelly's[1] observations lead him to regard a vesicular eruption on the palate as a pathognomonic of influenza, especially in those forms in which the respiratory tract is chiefly affected. It usually presents early in the disease, and remains almost throughout its course.

Mosenzeil[2] regards **Salipyrine** as a specific against influenza. He prescribed it usually in doses of 15 grains, occasionally giving as much as 30 grains and more, rarely in doses of $7\frac{1}{2}$ grains; the dose being in proportion to the severity of the symptoms. In many cases there was improvement after the first dose.

REFERENCES.—[1] Shelly. "Brit. Med. Journ.," April 15, 1893; [2] "Nouv. Rem."

Synopsis.—(Vol. 1893, p. 293.) Hare prefers **Phenacetin** and **Antipyrin** as antipyretics. A combination of **Salol** and **Phenacetin** is much used. Hare recommends at the onset the use of such a mixture as **Aconite Tincture** with **Spirit of Nitrous Ether,** and a solution of **Citrate of**

Potassium, but the latter is often given in too small doses, and unless there are contra-indications, 15 to 20 grains three times a day should be given. In the stage of depression **Strychnine** is useful, of which he also advises large doses, $\frac{1}{10}$ gr. for an adult, repeated even three or four times in twenty-four hours, and he has employed this dose every four hours in some cases without ill effects; he does not press the use of alcohol. For irritating cough, **Steam Inhalations** with **Benzoin** and other sedatives, and for bronchitis the ordinary mixtures of **Ipecacuanha** and **Potassium Citrate** in early stages, and later on **Chloride of Ammonium** and **Cubebs**. For sleep **Bromides** may be used, or **Chloral** if the heart is sound, **Chloralamide** or even **Sulphonal**, if given in powder or dissolved in hot water, and administered four or five hours before sleep is desired. Robertson uses pure **Benzol** in capsule or mixture, 3 min. doses for children, and 5 min. for adults every two or three hours, as a reliable pulmonary antiseptic, and keeps up its use for three or four days after all symptoms disappear. Crerar uses **Bicarbonate of Potash** in 30 gr. doses in milk every two or three hours; if the heart is weakened by it **Digitalis** and **Ammonia** are used, and **Dover's Powder** if diarrhœa set in. Simson employs **Carbolic Acid**: ℞ Ac. Carbol. Pur. 2 min.; Syr. Simp. 40 min; Tinc. Cardamom Comp. 10 min.; Sp. Chloroformi 10 min.; Aq. Menth. Pip. ad ℥j. Sig.—Every four hours until temperature is normal, and to be followed by bitter tonics. For sleeplessness he gives 10 grs. **Dover's Powder** the first night, and advises the use of **Brandy**, with **Soda Water** and **Dry Champagne**, encouraging the patient to take food, *e.g.*, good beef tea, fowls, pigeons, game, fish, especially oysters. For cough the following linctus: ℞ Liq. Morph. Hydrochlor. ℥j; Ac. Hydrobrom., Dil. ℥j; Chloroform. Pur. ♏3; Tinc. Limonis ℥j; Syr. Simp. ad ℥jss. Sig.—℥j tussi urgente.

INSANITY (Facial Expression as one of the Means of Diagnosis and Prognosis in Mental Diseases). *James Shaw, M.D.*

The patient, after his attitude and general demeanour have been observed, should be placed in a good light, in order clearly to see the complexion, slight changes of colour, fine lines, delicate movements, fibrillary tremor, and pupillary alterations. The patient should, if possible, be made to face the light squarely, so that the observer may detect any asymmetry of the head or face, or any inequality of the facial lines or in the size of the pupils. In this examination the effects of abscesses, swollen glands, and absence of teeth should be borne in mind; also that some asymmetry of the features and facial furrows is often seen in sane persons. The face having been examined in repose, it is necessary, in order to study the facial reaction, to engage the patient in conversation, or, if he is suffering from much intellectual weakness, to ask him a question or make some statement or movement calculated to arouse his attention, and then to watch the changes of facial expression carefully, or to note their absence.

A description of the patient's appearance (or, better still, a good photograph of him) before his illness ought to be obtained where procurable. The family physician has the great advantage of having

Fig. A.

Fig. B.

Fig. C.

known the patient when sane. Friends often perceive the alteration of physiognomy, but cannot always accurately describe it.

Attention to these simple directions, together with a general knowledge of the facial signs given below, will enable any practitioner to refer most cases to one of the ten great symptomatic groups into which I have divided mental cases for the purposes of this paper. Many cases will be further capable of diagnosis as to the sub-divisions etiological, pathological, or symptomatic, to which they belong, and in most others the medical man will be put on the way to a diagnosis to be confirmed by the patient's speech, conversation, conduct, and anamnesia (personal and family history). For scheme of differential diagnosis, founded chiefly on speech and conversation, see "Epitome of Mental Diseases." It should not be forgotten that some cases present the leading symptoms of two divisions, and many those of two or more sub-groups.

The deeper the facial structure affected the less favourable, speaking generally, is the prognosis as to mental recovery; convulsions and paralysis are less favourable than pallor and flushing; osseous asymmetry and malformation still less so.

Simulated Insanity—May often be distinguished from real insanity by the inability of the simulator, however well he may have learnt his lesson as to speech, dress, and actions, to assume the facial colouring, the pallor or the flushing, the dry, harsh skin, the lack-lustre or glistening eye, or the injected conjunctivæ presented by the insane patient; also by the want of correspondence between the simulator's facial expression and that properly belonging to the form of insanity he affects; where the latter is dementia either the expression in repose or the facial reaction, or both, are badly imitated; where it is mania the pantomimic ability of the maniac is absent; where melancholia, the sustained power of preserving the characteristic frontal and oral lines. If the simulator is taken by surprise the facial reaction is not the same as that of an insane person, and may even differ without the surprise test.

Eccentricity.—However the dress and actions of the eccentric man resemble those of the insane one, his face is devoid of the signs of insanity, and his facial reaction is not that of any of the forms of mental disease described below.

Febrile Delirium.—The countenance indicates low emotional force; the muscles round the mouth and eyes are relaxed, and the features are expressionless; there is little if any mobility of the facial muscles, and what movement there is is feeble and tremulous; the facial wrinkles are caused by emaciation, and not, as in acute mania, by

contraction of the muscles of expression. Where a diagnosis has to be made between ordinary febrile delirium and acute delirium, anamnestic and other symptoms must be taken into account.

I.—Melancholic Forms of Mental Disease.

In these depressive forms the head is as a rule bowed down with the chin approaching the chest. This attitude is well marked in the case of melancholic stupor *(Plate XVII, Fig. D)*. Except in periodical and circular cases, and in melancholy "folie raisonnante," there are rarely somatic stigmata (such as marked asymmetry of face or head, abnormal size, shape, or position of ears, very irregular and defective teeth, etc.) (see "Periodical Melancholia"). The presence of somatic stigmata has an evil prognostic significance, as far as mental recovery is concerned. The face is nearly always pale, often sallow, though I have seen a few cases of simple melancholia and some of hyperchondriacal melancholia in which the complexion was fresh and healthy-looking, but in most of these cases the redness was due to distension of the arterioles and capillaries from weakness. The face is sometimes greyish or livid or earthy in hue, the circulation being more than ordinarily feeble. The skin is usually dry and harsh, but is sometimes moist and clammy or greasy. The patient looks older than he is *(Plate XVI, Figs. A & B)*, and any good looks he may have had are diminished or lost.

The hair, if left to the patient's care, is long, matted, unkempt, generally dry and harsh, often rough, and sometimes stands straight out from the head *(Plate XVI, Figs. A & B)*. This patient's hair on admission fulfilled all these conditions, and when photographed all but the first three (see also case of melancholic stupor, *Plate XVII, Fig. D*). Evidences of the skin having been picked and the hair rubbed off or pulled out are of unfavourable prognostic omen. The eyebrows are in some cases roughened by the hairs being made to project through the action of the corrugators.

There is always more or less emaciation *(Plate XVI, Figs. A & B)*. This is very noticeable, both in the facial and the posterior cervical regions, in the latter causing the occiput to appear more prominent. In the anterior cervical region it causes undue prominence of the sterno-mastoid muscles *(Plate XVI, Fig. A)*. Where the loss of subcutaneous fat is extreme and persistent the prognosis is bad. When the patient, after a mental illness of some months' duration, becomes distinctly fatter without any appreciable psychical improvement, the likelihood of his restoration to sanity is diminished.

All the muscles of the lower part of the face are flaccid, causing the cheeks to sink downwards, the lower jaw to droop, and the face to

PLATE XVII.

Fig. D

appear longer than in good health and spirits *(Plate XVI, Fig. B)*. The flaccidity especially affects the orbicular muscles, so that the mouth is partly open with pendulous lower lip *(Plate XVI, Fig. B)*; and the depressor anguli oris, being less under the control of the will than the elevator muscles, acts more strongly than they do when voluntary power is diminished, and causes the angle of the mouth to droop more or less *(Plate XVI, Figs. A & B)*.

The forehead is nearly always wrinkled horizontally, owing to the action of the occipito-frontalis muscle being inadequately opposed by that of the orbicularis palpebrarum. Though in some cases the whole face is smooth and pale with immobile features and sad eyes or drooping eyelids, in many cases there are vertical wrinkles extending a little way above the nose, and caused by the contraction of the corrugatores supercilii. Further, in some cases the central fibres of the frontal muscle seem to overcome the pyramidalis nasi and draw up the inner end of the eyebrow (*Plate XVI, Fig. B*; compare this with *Fig. A* of same patient), the outer part of the forehead remaining smooth; this latter phenomenon (lateral frontal smoothness) has been attributed to the action of the orbicularis by some observers, to that of the corrugator by others, but having seen persons sane and insane, in whom the centre of the forehead remained smooth except for vertical furrows just above the nose, whilst the outer parts became wrinkled transversely, it seemed to me that the whole so-called "grief muscle" action might be owing to the associated contraction of the nasal or central frontal fibres of the occipito-frontalis muscles and the outer fibres of the corrugators, the outer or lateral frontal and the inner or upper corrugator fibres remaining inactive. So that the centre of the superciliary arch is held down, and just above the nose there may be a knotted fold, or a vertical one extending to the transverse furrows; compare the case of melancholia (*Plate XVI, Fig. B*), in which the median frontal and external corrugator fibres are contracted, with the case of acute mania (*Plate XIX, Fig. 1*), in which the right lateral frontal fibres are seen contracted along with the inner (or upper) corrugator fibres. Occasionally at the same time the inner end of the upper eyelid is drawn up.

The skin below and at the outer angles of the eyes is often puckered and wrinkled. The alæ of the nose and the angles of the mouth are generally lowered.

The naso-labial furrow—an important line in the study of the face—running from the alæ of the nose to the angle of the mouth, is deepened through the action of the superior straight muscles being proportionately stronger than that of the orbicularis oris (well seen in the

case of melancholic stupor, *Plate XVII, Fig. D*). These lines and wrinkles are more or less persistent, and some of them, such as those caused by the combined action of the corrugator, pyramidal, and central frontal fibres, the so-called "grief muscles," can rarely be voluntarily assumed without practice, and not always with it.

The muscles about the mouth are much more under voluntary control than those of the upper part of the face; in sane adults, especially male adults, it is customary to suppress or mask as much as possible the facial expression of the actual emotions and feelings, particularly that of bodily pain; in many cases of insanity this highest and last acquired form of control is lost, there is a veritable dissolution of expression, and the muscles about the mouth now readily betray painful or other feelings. See *Plates XVI, XVII, XVIII, XX, XXI & XXIII, Figs. A, B, C, D, H, O, P & V* for painful emotions; and *Plates XIX, XX, XXI, XXIII, XXIV, XXV, XXVI & XXVIII, Figs. I, M, Q, W, Y, AA, EE, JJ*, for the opposite. In *Plate XVI, Fig. B* both the oral and oculo-frontal regions betray the presence of painful emotions, the latter more powerfully, however, in this case.

The eyelids generally droop. The eyes are dull and devoid of lustre, and often suffused with tears. They may be motionless and either directed downwards (as seen in *Plate XVII, Fig. D*) or widely open apparently gazing at some distant object (*Plate XVI, Fig. A*). The look may be askance, uneasy, and suspicious. Or the eyes may be fixed with an expression of sadness (*Plate XVI, Fig. A*), of suffering (*Plate XVI, Fig. C*), of painful tension, or of astonishment. Or the glance may be timid and unsteady.

The countenance, as a whole, may bear an expression of indifference, self-effacement, inertia, inquietude, anxiety, doubt, distrust, sadness (*Plate XVI, Figs. A & C*), gloom (*Fig. B*), despair, fear, or horror. The lower parts of the face, especially of females, may wear an expression of suffering not shown in the frontal region (*Plate XVI, Fig. C*). A facial expression of anxiety, restless worry, or jealousy is often one of the first objective signs in cases of melancholia. In the developed disease the expression exhibited is persistent, almost unvarying, except in degree, and often intense.

Facial reaction in the developed disease, before convalescence has set in, is either absent (*Plate XVI, Fig. C*), abnormal, or exaggerated. When spoken to, the patient either exhibits no facial alteration, or purses up her eyes, depresses the corners of her mouth, and bursts out crying. Very slight circumstances will cause copious weeping. Or the lines of gloom and psychical pain may be increased in depth without weeping. Compare *Figs. A & B, Plate XVI.* In the latter

PLATE XVIII.

Fig. E

Fig. F.

Fig. G.

Fig. H.

the patient represented in *Fig. A* has just been asked a question as to the obstruction of the bowels from which he imagines he is suffering; although he complains of physical pain the reaction is much more marked in the upper than in the lower part of the face. In melancholic females and in idiots the reverse is nearly always the case.

Simple Melancholia is the typical form of these depressive conditions, and the foregoing remarks are applicable almost in their entirety to its facial signs. On a closer analysis of some of the expressions it will be found that expressions of sadness, gloom, despondency, and despair are conveyed by pallor, with more or less ruffling of the forehead, accompanied by a far-away look of the eyes occasioned by the parallelism or slight divergence of their axes and the dilatation of the pupils (*Plate XVI, Fig. A*). This expression is increased in dark people, and melancholia appears to occur much more frequently (in my experience at all events) in dark than in fair persons, by the dark lines about the eyes due to feeble circulation, increased venosity of blood, and deposit of pigment. If there is drooping of the oral angles and cheeks, the expression is still more accentuated (*Plate XVI, Figs. A & B*). An expression of sadness may also be conveyed by pallor with drooping of the head, eyelids, cheeks, oral angles, and nether lip, without wrinkling of forehead. Drawing up the inner ends of the eyebrows or natural elevation of these ends gives a gloomy expression. Expressions of doubt, distrust, and suspicion are evinced by an averted face and oblique furtive glance. Complete inertia is indicated by total loss of tension of the facial muscles. Anxiety and inquietude are in part expressed by the widely open eyes and scared watchful look (*Plate XVI, Fig. C*). Several or only one of these expressions may be present in any given case. The prognosis is good, but should be guarded at the commencement, in view of the fact that depression sometimes initiates other diseases, including general paralysis. When the patient is recovering the face may, in repose, still express gloom or indifference, but the facial reaction has already improved, and a cheering remark or question evokes a smiling reply.

Delusional Melancholia.—The delusions are always disagreeable, the hallucinations often frightful. The countenance frequently expresses dread and horror, either continuously or paroxysmally. In extreme cases the hair stands on end, the skin is either pale or flushed, with prominent veins, the lower lip is drooping and everted, and the mouth half open owing to loss of control over the oral orbicular muscle; from the same cause and the contraction of the straight muscles, the cheeks are furrowed in lines from the wings of the nostrils to the corners of

the mouth, and the nostrils are raised and extended ; through loss of control over the palpebral orbicular muscles the eyes are widely opened ; the forehead, owing to the unopposed action of the frontales, is wrinkled transversely in many folds, and, at the inner extremities of the eyebrows, strongly furrowed in diverging lines ; in consequence of diminished innervation of the circular fibres of the iris the pupils are large. Sometimes in paroxysms of delusional dread the sterno-cleido-mastoid and platysma myoides are powerfully contracted, giving rise in the former case to prominent ridges in the neck, and in the latter to forcible drawing downwards and outwards of the corners of the mouth.

The facial reaction in these cases, during the paroxysm, is *nil*, as the patient is so powerfully under the influence of the delusions and hallucinations that his attention cannot be obtained.

In *Agitated Melancholia*, the patient, instead of sitting or standing with bowed head, is in constant movement with signs of acute anguish, weeping, crying, lamenting, and wringing his or her hands. This motor, or rather psycho-motor, excitement is not necessarily of unfavourable omen, but if in any case of melancholia there are convulsive or paralytic symptoms the prognosis is bad.

An unalterable fixity of facial expression of emotional depression is unfavourable in all forms.

Chronic Melancholia.—The emotional depression has now come to be less pronounced, but the facial symptoms resemble those already described in the acute forms. The skin has, however, become coarser, harsher, duller in tint, and often picked in places ; the hair is dry and rough, and often pulled out or rubbed off here and there, or over a considerable part of the head. Othæmatomata are sometimes seen, or one or both ears may be shrivelled up in consequence of them. There is an appearance of facial deterioration, and the prognosis is almost hopeless.

Hypochondriacal Melancholia.—The transverse and vertical furrowing of the forehead, the elevation of the inner ends of the eyebrows, and the drooping of the corners of the mouth, are particularly well marked in some cases. Where bodily pain is complained of, especially in female patients, the latter symptom is often the most prominent. In others the face continues to have the appearance of good physical health, although it wears a more or less worried, careworn expression. In yet others the face is extremely pale, the forehead is wrinkled transversely though not very deeply, the hair is often dry, rough and erect, and if left to the patient's care, long, matted, and shaggy. Such a case is represented in *Plate XVI, Fig. A.* He is thirty

Fig. I.

Fig. J.

Fig. K.

years of age, but looks fifty. *Fig. B*, is from a photograph of his facial reaction when questioned as to his bowel obstruction. The fine lines extending all across the forehead have now become central, shorter, much deeper, and of course approximated, whilst the nasal ends of the eyebrows are markedly elevated ; at the same time the lower jaw, the corners of the mouth, and the nether lip are more depressed. The vertical supra-nasal furrows are present, though not strongly marked. He is the victim of idleness and bad heredity ; a spoiled only son who has never been taught any trade ; his mother (very dark complexioned) is a gloomy recluse, and three sisters (like himself dark haired) are also gloomy. Since the death of his father three years ago, at the age of eighty-seven, a fair-haired sister has been the bread-winner of the family.

In *Periodical* (including *Circular*) *Melancholia* there are often somatic stigmata such as, in addition to those already mentioned, disproportion between face and head, other cranial anomalies, immediate transition of the auricular lobe, in the form of a continuation of the helix, into the skin of the cheek, Darwinian tubercle on the upper and back part of the border of the ear, non-appearance of the permanent teeth, abnormally large or small mouth, hare-lip, hypertrophic swelling of the lower lip, projecting upper teeth, projecting lower jaw, deflection of nose, obliquity of palpebral fissure, congenital blindness, albinism, hypertrophy of the adipose tissue, coalescence of the eyebrows, the growth of a beard in the female, etc. The facial expression is similar to that in simple melancholia, in some cases approaching, and in a few quite reaching, that in stupor (*vide* case of melancholic stupor, *Plate XVII, Fig. D*). The prognosis, as in all cases of a degenerative nature (those with somatic stigmata, bad heredity, etc.), is unfavourable; distinct periodicity and marked alternations always warrant a bad prognosis.

In *Melancholy* "*Folie Raisonnante*" there are also degenerative signs, one of which is that the beginning coincides with certain physiological periods. In *Organic Melancholia* there is often, though not always, more or less unilateral facial paralysis (see organic dementia). The prognosis in all cases of melancholia with atheromatous arteries is bad. In *Senile Melancholia* there are facial signs of depression, suspiciousness, and senility. *Masturbational Insanity* in the second stage displays mild melancholic symptoms with, in some cases, a slight facial expression of disgust owing to the olfactory hallucinations so frequently present in this form. A slight elevation of the upper lip and nostril, and deepening of the naso-labial furrow are sufficient to convey this expression when it is not intense. There

are frequently hypochondriacal symptoms. Sometimes there is an element of stupor. In *Neurasthenia* a facial expression of apprehension with some depression is frequently met with. In many cases there is pallor; in some facial fatigue; in others the pupils are dilated. Sometimes there is tremor, and occasionally there is nothing abnormal facially. In all, the facial reaction is normal unless the disease amounts to *Neurasthenic Insanity*. In *Climacteric Insanity* the skin of the face is muddy and over-pigmented, often picked and scratched. The expression is a combination of sadness, worry, and apprehensiveness. The "grief muscle" action is often observed. In *Traumatic Insanity*, in addition to the facial expression of depression, there are often partial paralyses affecting especially the muscles of the eyeball.

Puerperal Melancholia.—At first facial expression indicates anxiety and dread, afterwards delusions and hypochondriacal symptoms (*Plate XVI, Fig. C*). In *Fig. C*, the symptoms are all below the eyebrows, whilst in the male hypochondriac on the same plate (*Figs. A & B*) they are most marked in the oculo-frontal region; both patients complained of bodily pain.

Lactational Insanity.—Generally facial signs of depression, which are sometimes accompanied by those of lethargy and stupor, sometimes by those of suspicion, apprehension, delusions, and hallucinations of sight, smell, and hearing. There is always anæmia.

Anæmic Insanity.—Anæmic pallor of lips, gums, and eyelids; slight depression; sometimes an element of stupor. Prognosis good in last three, and especially in last two, forms. In *Insanity of Paralysis Agitans* there are senile signs and the peculiar movements. *Rheumatic Insanity* approaches stupor, and there are often choreic movements. In *Uterine Melancholia* there are sometimes facial signs of disagreeable auditory hallucinations (see hallucinatory forms). The melancholic first stage of *Katatonia* is in many cases accompanied by choreiform movements of the facial muscles, cramps, and epileptiform and hysterical convulsions.

II.—Maniacal Forms of Mental Disease.

In these forms the emotions and facial signs are mostly those of elation, joy, cheerfulness (*Plate XIX, Fig. I*), satisfaction, anger (*Plate XVIII, Fig. E*), and rage (*Fig. F*). All is mobility, changeability, variety, even inventiveness, contrasting strongly with the monotony of melancholia. Facial reaction, nearly always present, is often exaggerated, frequently evanescent.

Simple Mania or *Hypomania.*—There is sometimes a prodromal expression of sadness. In the developed disease the forehead is

PLATE XX.

Fig. L.

Fig. M.

Fig. N.

Fig. O.

ordinarily smooth, owing to slight contraction of the frontal muscles. From the same cause the eyebrows are somewhat elevated. The eyelids, alæ of the nose, and angles of the mouth are slightly raised by contraction of their elevators, aided in the latter case by the zygomatics (shown in case of acute mania, *Plate XIX*, *Fig. I*). Through the action of the last-mentioned muscles and that of the risorius, there is a tendency to retraction of the oral angles, as shown in the same case of acute mania. The circulation is more than normally rapid, the eyes are bright, and there is a heightened colour of the face. The patient, in most cases, in the early part of the disease, looks handsomer and younger than formerly, whereas the melancholiac looks uglier and older. Sometimes the appearance is not pleasing, owing to the inco-ordinate action of the facial muscular fibres, the bloated sensual look, the glistening eye. The features are mobile, the expressions changeable, the prevailing mild elation being varied by occasional fits of anger or outbursts of laughter. The eye often expresses eroticism. The face, especially after the disease is of some duration, may be pale and somewhat worn-looking, but even then is free from the drooping, the monotony and poverty of expression of melancholia. The face sometimes wears an expression of silliness.

Acute Mania.—It is often preceded by a short stage of depression, sometimes by one of simple mania. The prevailing expression may either be one of cheerfulness or of jollity (*Plate XIX*, *Fig. I*), or one of angry ill-humour (*Plate XVIII*, *Fig. E*), or of fierceness (*Plate XVIII*, *Fig. F*). The expressions are more accentuated, more variable, and more evanescent than in simple mania. The face expresses in quick succession joy, anger, wildness, distraction, sadness, mischievousness, lasciviousness, fear, etc. In some cases constantly, and in many cases frequently, there is a playful humour with mimicry and amusing grimaces, winking, grinning, and voluntary distortions of mouth and face generally. At first, in the good-humoured cases, the patient looks healthier, younger, and handsomer, with flushed features and brilliant eyes. Afterwards in these cases, and early in the angry ones, the complexion is pale or sallow (as in case shown in *Plate XVIII*, *Fig. E*), and in all the face soon becomes thin and worn-looking. The skin becomes muddy and diminished in delicacy of tint and texture, either dry and harsh or pallid and clammy. Owing to this, combined with the injected conjunctivæ, glistening eyes, and in some cases fibrillar muscular inco-ordination, the patient has an unpleasant appearance. The eyes are in some cases kept shut; in some there is nystagmus, and this is generally symptomatic of the transition from

the acute to the chronic stage. The pupils may be either dilated or contracted, and are occasionally unequal. Any persistent affection of them, especially extreme contraction, influences the prognosis unfavourably. Owing to salivation and loquacity there is sometimes frothing at the lips, especially during exacerbations. In some cases, often of alcoholic origin, there is tremor of the cheeks and lips, especially the former. In the outbursts of rage in acute mania the dilated nostrils quiver, and there is marked tremor of the straight facial muscles ; there is either a strongly marked frown from contraction of all the corrugator and relaxation of the frontal fibres, or the eyes are widely open and glaring, an appearance given by the sclerotic being visible all round the iris instead of at the sides only. This glaring appearance is well shown in the angry-humoured acute maniac depicted in *Plate XVIII, Fig. F.* *Fig. E* of the same plate shows this patient in a quieter mood. The appearance of ferocity is occasionally increased by the upper lip being raised so as to expose the canine teeth. Sometimes, in consequence of exalted delusions, there are presented the attitude and facial expression of pride. There is always facial reaction ; when spoken to the patient shows facially that he understands, but the impression is momentary or there is an outburst of laughter, weeping or rage (*Plate XVIII, Fig. F.*) Acute mania may be diagnosed from agitated melancholia by the mobility and changeability of expression, the grimaces, etc., and the absence of a fixed monotonous expression of mental anguish. From meningitis by the fierce, prominent, and bloodshot eye, great intolerance of light, contracted pupils, hot and dry skin, and firmly knit brows of the latter. The diagnosis from febrile delirium has already been given. Remissions resembling hypomania are frequent. If there is paralysis of trophic power, so that nutrition cannot be restored, or if with improving bodily condition the mind does not improve, the prognosis is unfavourable. Convulsive (including cramps, twitchings, involuntary grimaces, as well as general convulsions), paralytic, or paretic symptoms are of ill omen ; amongst these must be included inequality of the pupils, marked asymmetry (acquired during the illness) of the facial lines and wrinkles, whether similar to that occurring in organic dementia or not. Hair pulled out and skin picked denote perverted sensations, and are bad signs. If the deterioration in the facial expression is extreme and persistent, and especially if it be towards vacuity, the prognosis is unfavourable. In cases tending towards chronicity there are often noticed, owing partly to unequal or inco-ordinated innervation of muscle groups associated in their action in the normal state, partly to contracture, incompatible facial

PLATE XXI.

J Ford Jones.

Fig. P.

Fig. Q.

SCOTT & FERGUSON EDINBURGH

expressions, *e.g.*, lower part of face laughing with raised and retracted oral angles and raised cheeks, whilst the eyes have simply a vacant stare, due to fixation and altered tension of the eyeballs and retraction of the eyelids, instead of being bright and pressed on by the rising lower lid and cheek, or a frowning angry brow with open fatuous mouth and pendulous nether lip.

Chronic Mania.—The patient is apt to himself, is dirty and neglected looking. In any case, it is often difficult, if not impossible, to make him look clean. The hair is often prematurely gray; in many cases it is harsh and bristling. The skin of the scalp is often loose. The face is in many cases deeply wrinkled, in most old and withered. The patients, especially the female ones, are almost always very ugly. There is sometimes convulsive twitching of the head, or of the orbicularis palpebrarum, or other facial muscle. Some patients are constantly in motion; others preserve ecstatic stillness to listen to their hallucinations; some turn their back on any person who approaches them. In some cases there is a fixed expression of some intense emotion, anger, fear, hatred, defiant pride, sullen obstinacy, smirking vanity, leering sensuality. There are often incompatible expressions, some of which have been described in the last paragraph. Some of these patients, with their gray or white hair, unusually sunburnt faces, deep facial lines, and distorted and ill-balanced features, have a weather-beaten, uncanny, and scarcely human appearance. Othæmatomata or shrivelled ears are sometimes observed. The prognosis is almost hopeless.

Senile Mania.—There are facial signs of senility, together with suspiciousness and some exaltation. Symptoms worse at night. There is often senile tremor. If there are any paralytic, paretic, or convulsive signs, the prognosis is very bad; it is not good at the best.

Periodical Manic including maniacal phase of *Circular Insanity.*—Degenerative signs, *e.g.* somatic stigmata, tendency to occur at physiological periods, bad heredity. The countenance is expressive of exhilaration, combined with roguishness and mischievousness, and the patient is more excitable than in simple mania. Prognosis very unfavourable.

Insanity of Graves' Disease.—Exophthalmos, proptosis and enlarged thyroid. Prognosis improved by recent advances in therapeutics.

Hysterical Mania or *Acute Hysterical Insanity.*—Somatic stigmata. Pupils dilated; sometimes, though rarely, unequal. Frequently visual hallucinations. Often languishing, amorous expression about eyes.

Pubescent and Adolescent Insanities. — The auricular muscles, the nasal, the platysma, the occipital, are more often capable of voluntary movement in the insane than the sane; voluntary power over the last-named muscle, causing mobility of scalp, is frequently seen in hebephrenia and *Katatonia.* Facies of youth and exaltation. Where there is masturbation, as in first and third stages of *Masturbational Insanity*, there are often facial signs of olfactory and auditory hallucinations. In masturbational insanity, the complexion is pale and pasty. Lack of emotional depth, silliness, insincerity, haggard thin face, averted eye, and impaired sight. In adolescent insanity, mental improvement, accompanied by signs of manhood (beard growing, size and weight increasing), warrants a favourable prognosis.

Puerperal Mania.—When the disease threatens, the countenance of the patient becomes dull and self-absorbed. Anæmia where there has been much hæmorrhage. Erotic expression more pronounced than in most cases of acute mania.

Podagrous Insanity.—Gouty diathesis, somewhat advanced age.

Expansive Syphilitic Insanity.—Frequently ptosis, strabismus, or other symptom of partial and limited paralysis.

Mania a Potu.—Facial reaction absent during its short duration.

Epileptic Mania.—During these paroxysms or attacks, the facial expression denotes anger and suspicion, and, as a rule, there is either no facial reaction, or one indicating an outburst of rage. *Fig. H, Plate XVIII,* shows a patient, aged twenty-three, in her first attack of epileptic mania, precipitated by drink; *Fig. G,* the same person at the age of twenty, prior to the greatly increased frequency of her epileptic fits, consequent on marriage, child-bearing, and alcoholic excess, with its attendant worries. In the maniacal attack, she accuses those about her of poisoning her, and abuses them, repeating phrases many times (verbigeration). The angry, suspicious look is well shown in the lower part of the face and slightly in the eyes. There is some asymmetry, the right angle of the mouth in *Fig. H* being lower than the left, and the right eyebrow in *Fig. G* higher than its fellow, with the right pupil larger than the left.

III.—Delirious Forms of Mental Disease.

Facial reaction nearly always absent. Constant agitation, but no facial expression of elation or of continuous acute mental pain.

Acute Delirium (Acute Delirious Mania, or Acute Maniacal Delirium).—Prodromata are facial signs of inquietude and apprehension. In the early stages of the developed disease, there are often expressions denoting terror and affright, similar to those described

Fig. R.

Fig. S.

Fig. T.

under the head of delusional melancholia. Later, the face is pale and earthy-looking, with red malar prominences; the skin is sometimes dry, sometimes bathed in sweat; the countenance is expressionless, like that of a drunken man, or wears an expression of anxiety. There is constant motor agitation; there is also tremor, and frequently there are slight muscular contractions or clonic spasms; there is grinding of the teeth; great loquacity. Later still, there are sordes on the lips and teeth. In some cases the hair falls out, and there are desquamation and cyanosis. The patient is apathetic, and lies with a staring or startled look. Finally, there are the facial signs of drowsiness and coma. On account of the great gravity of the prognosis in acute delirium, it is important to diagnose it from acute mania and agitated melancholia. With the help of non-facial signs, such as temperature, it may be distinguished from the former by the total absence of facial reaction, as well as by the facial colouring and expression, and from most cases by the tremor; from the latter by the facial colouring, the tremor, and the absence of persistent expression of acute mental pain.

Insanity from Bright's Disease.—There is delirium with impaired consciousness. Puffiness about the eyes, the characteristic "Bright eye." In a case of Bright's disease, combined with well-marked morbus Addisonii (facial discoloration, etc.), there were impaired consciousness and painful nocturnal hallucinations (coffins, etc.).

The Delirium of Young Children.—The diagnosis of insanity from the delirium of fevers has already been given.

IV.—Stuporous Forms of Mental Disease.

Absence or monotony and fixation of facial expression (*Plates XVII & XIX, Figs. D & J*), accompanied by mutism, absolute or nearly so. Total absence of facial reaction to words. Dilatation and sluggishness of pupils. General bodily immobility.

Melancholic Stupor (Stuporous Melancholia or M. Attonita). Patient immobile with bowed head (*Plate XVII, Fig. D*). Complexion, sallow; skin, harsh; emaciation. Facial expression vacant, or, more frequently, with pinched contracted features, indicating intense wretchedness and misery (*Fig. D*); or, in delusional melancholic stupor, indicating anxiety or terror. The eyelids may be drooping (*Fig. D*), or the eyes widely open, with "the far-away look" given by the dilated pupils and parallel or slightly divergent axes. They may be directed towards the horizon or to the ground (*Fig. D*). The pupils are dilated, and contract slowly, or not at all, to light. The patient is resistive, and if food is put to his lips he compresses them tightly.

He also resists removal, dressing, or undressing. No difficulty as to diagnosis from previously described forms. Prognosis fair, about half the patients recovering.

Anergic Stupor (*Acute Dementia*).—The muscles are diminished in tone, and flabby, *e.g.*, lower part of face in *Fig. J*, *Plate XIX.*; in the upper part of this face there is muscular asymmetry, the right eyebrow being higher than the left. The whole demeanour denotes laxity and weakness (*Fig. J*). The patient if attended to and fed often remains plump (*Fig. J*). Facial expression absent or vacant, puzzled (*Fig. J*), confused, listless, or stupid. The eyes are either widely open, staring into vacancy (*Fig. J*), or half closed, with the eyeballs turned up. The mouth is generally open; the extremities are blue and cold; all parts obey the laws of gravity; there is complete passivity, contrasting with the resistiveness of melancholic stupor. The patient, if not attended to by others, has a very dirty, dishevelled appearance, with unwashed face, unkempt hair, flowing nasal mucus, and dribbling saliva. Prognosis very good, nine-tenths of the typical cases in young persons recovering.

Cataleptic Stupor.—Absence of facial expression; patient non-resistive; cataleptic condition, parts remaining where placed by the observer. The prognosis in incidental forms, maniacal, general paralytic, epileptic, periodical, etc., is the same as that in the general condition to which they belong.

V.—Hallucinatory Forms of Mental Disease.

Hallucinations constitute the predominant symptoms, and affect the countenance according to their nature (pleasing, terrifying, etc.), or the sense or senses (sight, hearing, etc.) involved.

Delirium Tremens.—The face is pale, or flushed and perspiring. There is tremor of the facial muscles when in action, and in severe cases when in repose. The appearance is restless, the expression anxious and terrified, the eyes are injected, the pupils dilated, but sensitive. *Fig. K*, *Plate XIX*, represents a mild case, photographed when the symptoms were least marked, viz., in the daytime. In severe cases, the facial expression may be haggard, inclining to vacancy, and the eyes sunken. Owing to the hallucinations, and especially at night, the patient looks about him in a frightened way, or with startled glances, and assumes attitudes of watching intently and listening, accompanied and followed by facial and verbal expressions of fear, pain, anger, or surprise. Unlike mania, there is no exaltation; unlike melancholia, no permanent mental pain; and unlike acute delirium, the attention is capable of being aroused and retained for a short

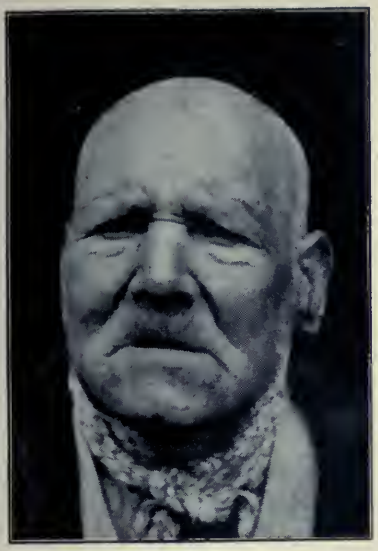


Fig. U.

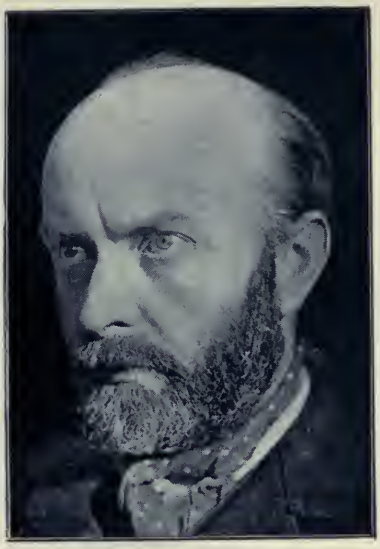


Fig. V.

Fig. W.

time, there is facial reaction unless in the very severe cases, and in these the anamnesia must be taken into account. The immediate prognosis is good, except where there is much tremor or pyrexia.

Chronic Alcoholic Insanity.—The patient looks neglected ; there is a general laxity of muscular tone, the head droops forward, the eyes are dull, the face is defective in expression (*Plate XX, Fig. L*). The arteries are atheromatous. There is labial tremor, which diminishes under the imbibition of alcohol. In the case shown in *Fig. L*, there is constant twitching of the right side of the face. Beer drinkers tend to be stout and florid, spirit drinkers emaciated and pale (*Fig. L*), and the latter greatly preponderate amongst the chronic alcoholic insane. There are the usual facial and ocular evidences of visual and auditory, painful, mobile, nocturnal hallucinations. There are also the furrowed forehead and pinched features of persecutional delusion (*Plate XX, Fig. L*), the thwart glance of suspicion, the averted eye of envy and jealousy.

Insanity from Absinthe and Opium is markedly hallucinatory, and resembles delirium tremens ; but in the case of absinthe there is more motor excitement, with a greater tendency to convulsions ; in opium insanity, the skin has a parchment-like appearance, and the pupils are contracted. *Insanity from Cannabis Indica* is mostly hallucinatory, but there are purely impulsive cases.

Confusional Insanity.—In acute fully developed cases, there are hallucinations and illusions of all the senses, those of sight predominating. There is no facial expression of any emotion, thus distinguishing the disease from mania and melancholia ; and no marked tremor, such as is observed in delirium tremens. Consciousness is more or less blurred. In acute or primary confusional cases, the prognosis is good. Pure cases are rare, but the puerperal melancholiac represented in *Plate C, Fig. XVI*, suffers from,—in addition to anxiety, inquietude, bodily pain, and some depression or mental pain—many and various hallucinations and illusions of sight, hearing, and all the senses, and much confusion as to place, time, and persons. The pained, tearful expression, and widely open, staring, bewildered eyes are well represented in the photograph. The appearance of staring is given by the fixation of the eyeballs and retraction of the eyelids. I have met with cases of puerperal insanity which were almost purely confusional.

VI.—Obsessional Forms of Mental Disorder.

The predominating symptoms are either obsessions (fixed ideas, imperative conceptions) or morbid impulses. The facial reaction is

normal, or nearly so. These cases are grouped together as rudimentary paranoia by some, and included under the head of monomania by others.

Pathophobia, or morbid fear, may present itself as agoraphobia, claustrophobia, astraphobia, mysophobia, etc., and the facial expression of distress is limited to the conditions under which each pathophobic form is aroused. There are often neurasthenic symptoms.

Folie du Doute.—These patients at first present a sombre, apprehensive, and dreamy aspect. Their facial expression varies afterwards according to their special craze—that is to say, whether they are metaphysicians "why and wherefore" men, over-scrupulous persons, morbidly timid, touch-defiled, counters (Napoleon I.), touchers (Dr. Samuel Johnson), or realists. Sometimes there is pallor, occasionally incompatibility of expression of the frontal, ocular, and infra-ocular regions, sometimes a care-worn look, frequently nothing. The prognosis as to complete mental recovery is not good, though these patients seldom reach asylums or become demented.

Impulsive Insanity.—The dipsomaniacal impulse is generally, and after a time always, accompanied by the alcoholic physiognomy; the sexual is denoted by the suffused eye and lascivious look; the aggressive frequently by the broad face, high malar bones, and sullen, angry expression; but it also often lurks under a smiling countenance, as in *Plate XXVI, Fig. DD*, which represents a young weak-minded deaf mute, who is at times suddenly, and without provocation, violent and aggressive; occasionally, however, he may be seen sullenly biting his nails.

Persons who are of what has been called the *Insane Diathesis* often suffer from some form of obsession. They frequently have, in addition to some of the degenerative signs already mentioned, irregular features, facial twitchings, vacillating eyes, with an abstracted, timid, suspicious, or animal look in them.

VII.—Delusional Forms of Mental Disease.

The facial expression varies with the kind of delusion. Granted the truth of the delusion or delusions, the facial reaction is normal.

Paranoia (*Delusional Insanity*, *Monomania*).—In the ambitious and expansive religious cases, there is often an expression of satisfaction and contentment, as in *Plate XX, Fig. M*, representing an old lady who is, as her own story goes, a relative of Queen Adelaide and other exalted personages. This patient talks coherently and well, but has a weakness for cups, surrounding herself and her bed with them. In

the religious cases, there is often an ecstatic expression. The ambitious patients may show facial signs of auditory hallucinations, the religious of visual and auditory. There may be the raised backward-tilted head, the staring eye, the dilated nostril of pride; the retracted and elevated oral angles constituting the smirk of self-conceit, with the glance directed first over the patient's own person, and then towards others to see the effect; the unilateral elevation of lip and nostril, the slight raising of the eyebrows, and the downward direction of the eyes, comprising the supercilious sneer. The strong sexual propensities of expansive religious paranoiacs are indicated facially sometimes by the suffused eye, more frequently by the languishing look, the casting of sheep's eyes. The remarks in the last sentence apply also to erotomaniacs. In that form of erotomania which attacks middle-aged single women, the subjects are mostly either dwarfed, deformed, red-nosed, blear-eyed, hairy-faced, or otherwise ugly; in some cases, there are the unnaturally bright eyes of ovarian disease. Persecutional, jealous, and depressive religious paranoiacs wear, as a rule, a care-worn, worried look, and show, especially the first-named, the facial signs of auditory hallucinations, widely open eyes, or half drooping eyelids, or the expression and attitude of listening intently. Persecutional cases have at first an expression of surprise and inquietude, with some anxiety. In hypochondriacal paranoia, there are combined the half-worried, half-surprised look of paranoia with the pained one of hypochondriasis. *Plate XX*, *Fig. O*, shows the furrowed forehead, the widely-open eyes displaying, especially on the right side, the sclerotic nearly all round the iris (hence the appearance of staring), the drawn-in, pained expression of the lower lip; the sallow complexion is of course not represented. The patient believes that nearly all his bones have been twisted, broken, and partly replaced by metal by outside agencies, and that he is worked upon by batteries; he particularly blames one person for causing all his troubles, and has threatened (in his absence) to do him serious bodily injury.

Plate XX, *Fig. N* represents the same patient twenty-six years ago, when he was twenty-seven, just before a slight transitory hallucinatory attack (his first attack of actual mental disorder), owing to business losses and drink. He was always eccentric, helpless, and unreliable, though a clever musician and linguist; until the commencement of his present illness, nine years ago, he drank to excess. Allowing for the difference of age, a very great alteration is observable about the eyes and mouth.

His sister, an eccentric, very loquacious, and, in some respects, clever person, traces their pedigree back to Oliver Goldsmith's sister. But

whether this is the flight of an expansive paranoiac, or another instance illustrating the affinity between madness and genius, especially eccentric genius, I am at present unable to say. However, in either case, it is interesting as bearing on heredity.

Expansive paranoia may be diagnosed from acute mania by the disordered features and ever-changing expression of the latter; from chronic mania, with delusions, by the mental weakness and absence of systematization, hardly in all cases by the facial expression alone; the same applies to what has been called chronic confusional insanity. The depressive forms may be distinguished from melancholia, not always by the facial expression, which generally indicates more intense mental pain in the latter, but almost always by the fact that the melancholiac blames himself, the paranoiac others. The frequency of the presence of somatic stigmata must be kept in view where the diagnosis of paranoia is concerned; but in the rare congenital cases of paranoia there is often a close approach to imbecility with delusions, a resemblance heightened by the presence of somatic stigmata in both. *Plate XXVII, Fig. FF* represents an imbecile with expansive delusions (that he is a general, and has got his medals for killing "blacks" in battle); he presents the following degenerative signs, compression of sides of head, asymmetry of face, large ears, tending to angularity posteriorly, deviation of nose, twitching about eyebrows and nose; his mental weakness serves to locate him; although at a good school for imbeciles, he could only be taught to count as far as eleven, to read his own name, and write it. The prognosis, as in all forms in which somatic stigmata are common, is bad.

Chronic Hysterical Insanity.—Occurs mostly in females. Patients are anæmic, thin, even marasmatic. There is often swelling of the upper lip. The facial expression often indicates the presence of migraine. Somatic stigmata are frequently present, and there are exacerbations at the menstrual periods.

Phthisical Insanity.—Phthisical facial symptoms. Facial expression of morbid suspicion.

Folie à deux.—Presence of mental weakness, absence of hallucinations.

VIII.—Forms of Mental Decay.

Mental weakness betrayed by the physiognomy either in repose or in action, or both.

Simple Primary Dementia (Primary Mental Deterioration, Atheromatous Insanity).—Subjects, middle-aged busy men. Premature grayness, pallor, inequality of pupils, laxity of facial muscles. Prognosis fair, if disease taken in time, and patient not past middle age.

PLATE XXIV.

J. Ford Jones.

Fig. X.

Fig. Y.

SCOTT & FERGUSON EDINBURGH

Organic Dementia.—Motiveless weeping is a common symptom, and is more marked when the lesions are in the occipital or temporal regions, or the central ganglia. When the disease is of some duration, there is often little or no facial paralysis (*Plate XXI, Figs. P & Q*). There may be a stupid or wall-like appearance of countenance, with brown, greasy-looking skin, or an unhealthy-looking reddish coloration, or flushings. When the facial paralysis is persistent, and the lesion is above, in, or just outside the corpus striatum, the palsy is partial and incomplete, the buccinator and other straight muscles going to the lip and oral angle are weakened, the cheek looks flat, with the naso-labial furrow less marked than on the sound side, the upper lip is less arched, and the angle of the mouth is lower (*Plate XXII, Fig. R*). When the patient is made to laugh or speak, the difference in level is more marked, and still more so when the patient smiles or the lip is raised voluntarily to show the upper teeth. Were one side drawn up by spasm or contracture, the other apparently paralysed side would move more than it in the actions just mentioned. When the limbs have become more or less contracted, the naso-labial furrow on the palsied side may be deeper than that on the sound one, although the oral angle on the former is lower than that on the latter (*Plate XXII, Fig. R*). The patient can easily frown, and can close and open both eyes almost equally well. In many cases, if the eyebrows are raised voluntarily, the forehead is wrinkled equally the whole way across, whereas during conversation the healthy side may be deeply furrowed, whilst the paralysed one is nearly smooth. In *Fig. R* the wrinkles are deeper on the right than on the left, or paralysed side. The pupils are often unequal, the larger pupil being generally on the paralysed side (others say not, but I have found it so in thirteen of sixteen cases, with hemiphlegia and pupillary inequality). There may be choreiform movements, or epileptiform, or epileptic attacks (patient represented in *Fig. R* has suffered from epileptic fits since her paralytic attack twelve years ago). If there are any lesions situated in or near the pons, the facial paralysis is much more marked. Sometimes the nose is drawn to one side, and the face has a generally distorted appearance. There may be bilateral lesions and symptoms. The prognosis as to complete recovery is bad.

Senile Dementia.—Signs of age, such as grayness, baldness, arcus senilis, tortuous temporal arteries, tremor, sometimes opacities of the vitreous or lens. Some of the paralytic conditions of the last form occasionally occur in the course of the disease, but merely incidentally. The facial expression changes with childlike facility from grave to gay, and *vice versa*. In *Plate XXI, Figs. P & Q* is depicted a patient suffer-

ing from a form of mental weakness included, when it is met with in old age, by some alienists under the head of senile dementia, and by many practitioners and the general public more correctly designated "softening of the brain." "Organic dementia without marked permanent paralysis" would be a very appropriate name for this condition. In this case, there are baldness, grayness, tortuosity of the temporals, slight arcus senilis, emotional facility, very defective memory for recent events, loss of power of orientation ; these symptoms point to senile dementia, but, unlike a case of true senile dementia, the patient is strong physically, his complexion is ruddy and healthy looking, and the mental decay dates from a transitory right hemiplegic attack five years ago at the age of fifty-six. Of the paralytic attack, very few traces are left ; the right naso-labial furrow is deeper than the left in repose (*Plate XXI. Fig. P*), and the right oral angle the higher; these conditions are reversed when the patient smiles ; the right pupil is just perceptibly larger than the left ; there is slight, fine tremor of the right fingers on spreading them out, but not of the left ; the dynamometric indications are—right hand—grasp, 101 ; left, 90 ; no sensory inequality, gait firm ; the case is thus distinguished from one of ordinary organic dementia, with hemiplegia or paraplegia. From primary mental deterioration it differs in presenting a fresh complexion instead of pallor, and in the facility with which trivial remarks not at all jocular, or circumstances not ludicrous, cause the facial expression to change from one of almost unprovoked annoyance and severity (*Plate XXI, Fig. P*) to that of hilarity (paramimia) (*Fig. Q*). Both in true senile dementia and the form of organic dementia just described, which simulates it, the prognosis is bad.

Puerperal Dementia.—Hair rough and dishevelled ; face dirty and neglected ; facial expression apathetic or slightly emotional ; absence of normal facial reaction when addressed, or at sight of her infant.

Alcoholic Primary Dementia.—Occurs mostly in women. Is accompanied by paraplegia, and the knee jerks are lost. The expression is vacant or pained, and the pupils are dilated and sluggish. Facial reaction slow. *Fig. T, Plate XXII*, represents a case (age, forty-four,) and *Fig. S* the same person at the age of thirty-four, before the alcoholic habit was acquired. In the former, the wide insensitive pupils, coarse face, and diminished curving of the features, especially of the lips, are noteworthy. In many cases, all the symptoms, except the weakness of memory, disappear.

Syphilitic Dementia.—Marked loss of expression. Apathetic look. Sometimes partial paralysis (ptosis, strabismus, etc.) ; simultaneous paralysis of fifth and sixth nerves has been said to be pathognomonic

Fig. Z.

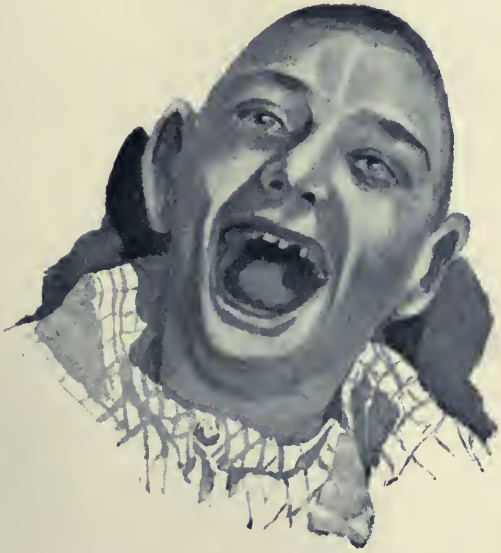


Fig. AA.

of syphilis. Facial reaction slow. Prognosis doubtful, even when treatment energetic.

Myxœdematous Insanity.-- Dry coarse skin, puffy eyelids, thick lips, atrophied thyroid, impaired sight and hearing. Slowness of facial reaction. There are signs of mental weakness, with others sometimes maniacal, sometimes melancholic, sometimes depressive delusional. The prognosis is now good, the psychosis, as well as the myxœdematous condition itself, being favourably influenced by recent methods of treatment. On page 398 of the "Medical Annual" for 1893 are two figures representing a case of myxœdema before and after treatment.

Terminal Dementia.—In these cases, the head is, owing to muscular relaxation, often bent forward (*Fig. U, Plate XXIII*). The patients look old, and, if left to themselves, dirty and neglected. There may be incompatible facial expressions, as described under the heads of acute and chronic mania; there may be marked asymmetry of the facial lines and folds through unilateral muscular weakness or over-action, or unequal innervation; or the face may appear healthy, with florid complexion, but stupid, vacant expression, or meaningless frown (as in case shown in *Fig. U*); or the patient may be stout, with short neck (*Fig. U*), and injected conjunctivæ; or, again, the facial expression, when the face is in repose, does not indicate the mental weakness; but, on asking the patient a question, he looks vacant and puzzled, with lack-lustre eye, and weak smile or meaningless laugh (paramimia); or the face may habitually wear an expression of attention which is motiveless; or there is a vacant look, with bursts of laughter and sometimes traces of childish emotion. In some dements, fragments of delusions, some hallucinations, and episodial excitement remain and influence the physiognomy; some have a laughing countenance, with an expression of pride, self-satisfaction, or assurance; others wear an expression of grief, and shed many tears; many react abnormally towards the external world, laughing when they should be sad, weeping when they should be merry (paramimia). In the apathetic form, the countenance is relaxed, or wears an amazed look; or the face may be pale and expressionless, with dull, tear-moistened eyes, and dilated pupils; or, as sometimes happens as the termination of melancholia, the physiognomy wears an expression of heaviness and stupidity; in many cases, there is a dull, apathetic look, with the saliva drivelling from the half-open mouth. In terminal dementia, there is frequently absence of facial reaction (the face represented in *Fig. U*, never changes, even if a piece of tobacco, that *summum bonum*, is placed

in the mouth; yet the old man has the sense to make signs with his fingers when he wants a quid). In many cases, both agitated and apathetic, no response, facial or other, can be obtained. There are sometimes othæmatomata, or shrivelled ear or ears. The stout, florid, old *epileptic terminal dement*, with stupid eyes, fixed expression, and unreactive asymmetrical face represented in *Fig. X*, *Plate XXIV*, amuses herself now by playing with dolls and dolls' clothes. Fixation, stupidity, and vacancy of facial expression, are characteristic of these epileptic dements. Facial asymmetry is frequently observed; in the case depicted in *Fig. X*, it is both muscular and osseous. *Alcoholic terminal dements* are degraded-looking, tremulous, and often suffer from paralysis, convulsions, or twitchings. Sufferers from saturnine, mercurial, and other toxic forms of terminal dementia, as well as from cataleptic, katatonic, and masturbational terminal dementia, present more or less of the cranio-facial character of the acute diseases which precede them. Except in a few cases of terminal dementia, a photograph of the patient when in good mental health will show by contrast the facial deterioration, and in these few the abnormal facial reaction (paramimia) will betray the mental weakness. By attention to the facial expression in repose and in action, the diagnosis from acute forms of mental disease is, as a rule, not difficult. The prospect of recovery is hopeless.

IX.—Pareto-Ataxic Forms of Mental Decay.

These are characterized by mental feebleness and motor, sensory, and psychical ataxia with paresis, of which conditions there are always, in the fully developed disease, some facial indications.

General Paralysis.—In the prodromal stage, when the face is in repose, nothing may be noticeable except abnormality of the pupils, such as extreme contraction (pin-head pupils are especially frequent in the ascending form of general paralysis), sluggishness, irregularity, inequality. There may sometimes be strabismus, ptosis, or facial paralysis; occasionally, spasmodic twitching of the lips, lower face, eyelids, or forehead; rarely, spasmodic movements about the mouth, or even teeth-grinding. But on asking the patient a question, watching his face in a good light whilst he replies, and requesting him afterwards to protrude his tongue, to close his eyes, etc., it will often be seen that the voluntary movements of the oral, lingual, and sometimes of the palpebral, zygomatic, and other facial muscles are accompanied and interrupted by fibrillary tremor or twitching, and sometimes preceded and followed by involuntary movements in the same and in the

opposite direction, giving rise to slight spasmodic action. This latter, if present, increases, and if not present, appears later on.

In the early stages of established general paralysis, the complexion may be florid, or the skin may show dilated venules, or may be coarse and muddy-looking, or greasy, or resembling parchment to the eye. There may be transitory flushings of the face. The frontalis is often contracted, causing transverse wrinkles of the forehead. There is often twitching of the same muscle. The eyebrows are often raised; the hairs may be turned up on the forehead, or hang down over the eyes like a moustache, or be shaggy and irregular. The lower lines of the face are partly obliterated. Pupillary inequality (*Figs. V & W, Plate XXII*), irregularity, contraction, and sluggishness are now frequent. The conjunctivæ are in some cases injected. There may be even now grinding of the teeth and champing of the jaws, caused by spasm of the buccinator and masseter muscles. Constant tremor of the palpebral and great zygomatic muscles, shown by trembling at the outer corners of the eyes and the corners of the mouth, is almost pathognomonic of the earlier stages. The ataxic disorders, already described as occurring when the patient is made to perform voluntary movements, are now increased. The tremor, twitch, or spasm of the lips and face, is sometimes unilateral. The tongue is jerked out and in convulsively.

In *Fig. W, Plate XXIII*, is depicted a case of general paralysis with grandiose delusions; the left angle of the mouth droops somewhat, and the left naso-labial furrow is less marked than the right; the left pupil is the larger. The head is thrown back in the attitude of pride, and the face expresses exaltation and satisfaction.

Later on, if the patient is in bed, he keeps his head raised away from the pillow; his hair is coarse, rough, and dishevelled; his skin greasy or coarse and earthy-looking. The forehead is furrowed, whilst the lower parts of the face are flabby, relaxed, puffy, and appear to be swollen, or give the impression of increased fatness; or the face may become thin. Owing to over-action of the frontal muscle, or corrugators, and weakness of the orbicular, and partly at times to some transient twitching of the former, the upper part of the face expresses astonishment, annoyance, or regret quite unfelt by the patient, so far as one can judge; whilst, at the same time, the lower part of the face, through slight contraction of the zygomatics and weakness of the oral orbicular, may wear an incompatible expression of satisfaction and contentment. The naso-labial furrow is partly effaced. In *Fig. V, Plate XXIII*, is depicted a patient in the second stage, with corrugated forehead, unequal pupils, and flattened naso-

labial fold. He is, as his appearance indicates, a brain-worker, a clerk, and his insanity (the depressive form of general paralysis) resulted from monotonous mental over-exertion and worry, with (probably) privation.

As the disease progresses, the patient lies gazing stupidly about him, or looking fixedly before him with vacant expression, widely open eyes, and corrugated forehead. Seizures, apoplectiform, epileptiform, and paralytic (facial hemiparesis) are frequent at this stage. The unilateral paresis is more marked in the lower part of the face, and may be limited to the face. Unilateral spasm may cause even more distortion than facial hemiparesis does. There may be choreiform movements of the head, subsultus, or movements resembling those of paralysis agitans. The pupils are nearly always unequal, sluggish, and irregular. Sometimes there is temporary ptosis, owing or not to spasm. Paresis of the orbicularis oris may give rise to dribbling of saliva. There is frequently grinding of the teeth. The tongue is protruded only in a jerky, partial, and momentary fashion.

Later still, the skin, however clean, appears dull and dirty, or greasy ; the expression is fatuous ; there is emaciation ; the tongue is protruded with difficulty, or not at all. For some time before death, the patient cannot understand any question or order.

In the expansive cases, the prevailing facial expressions are those of contentment, self-satisfaction, and pleased benevolence (*Fig. W, Plate XXIII*) ; in the depressive, sadness, worry, annoyance (*Fig. V*), fretfulness, tearfulness. In the more than usually demented cases, facial reaction is slow or absent, and the expression is vacant and unemotional.

When the somatic signs of general paralysis are well marked, and regular in their evolution, the diagnosis is sufficiently easy from the facial signs ; but when the opposite holds, or where there are tremor, twitching, unequal pupils, etc., accompanying the mental symptoms of mania or melancholia, especially the former, with exalted delusions, all the symptoms and the anamnesia must be brought to bear, and it may even be necessary in some cases to suspend judgment for a time. In expansive paranoia, tremor and twitching, when present, are generally emotional, appearing only under excitement. In organic dementia, the symptoms usually come on suddenly, and do not progress as in general paralysis ; tremor (facial, labial, and lingual) is very much rarer, is not specially evoked by voluntary movements, and is never fibrillary. The form of organic dementia arising from tumour, which most resembles general paralysis, is rare, and there are non-facial symptoms absent or infrequent in the latter. General

paralytic stupor is distinguished from other forms of stupor by the somatic symptoms. In the diagnosis of general paralysis, it should be remembered that about three-fourths of the cases occur in men aged from thirty to sixty. When the disease has passed the prodromal stage, or, roughly speaking, when the face in repose betrays the presence of general-paralysis, the prognosis is hopeless.

Alcoholic Pseudo-General Paralysis commences more brusquely and advances more rapidly than true general paralysis. Tremor is general and massive. Fac al signs of visual hallucinations, worse at night. Disease curable. Other alcoholic forms are more easily diagnosed from general paralysis by symptoms already given under the head of hallucinatory forms.

Saturnine Pseudo-General Paralysis.—Earthy hue of skin ; blue line on gums ; visual hallucinations, with ideas of persecution and poisoning. The pupillary inequality is more often absent than in general paralysis, and the tremor is more intermittent, more pronounced, and more spasmodic. The disease commences suddenly, and, often after a brief course, ameliorates rapidly.

Syphilitic Pseudo-General Paralysis. — Often very pronounced cachexia. Expression brutish and stupid. Tremor rarer, less intense, and less permanent than in general paralysis. The tremor is not jerky and shifting like that of general paralysis. The fine fibrillary tremor is absent. The paralyses are much more accentuated than in general paralysis, and partial paralyses (ptosis, strabismus, etc.) are more frequent. Cure is possible.

X.—Forms of Psychical Defect.

These are characterized by mental or moral weakness, depending on arrested development, and generally showing themselves in the face when in repose, but in some cases only when in action (*Fig. CC. Plate XXVI*).

Idiocy.—The conformation of the face and head has been used as the basis of one classification ; thus, some idiots with bullet heads, woolly hair, and thick lips are said to be of the Ethiopian type ; others with straight scanty hair, broad flat face, oblique widely-separated eyes (*Fig. Y, Plate XXIV*), and loose yellowish skin, of the Mongolian or Kalmuck ; others, again, of the Malayan. In another scheme, some of the classes are founded on the size and shape of the head and face, *e.g.*, microcephaly, hydrocephaly, and, to some extent, cretinism. Further, some cases are described as hypertrophic, porencephalic, plagio-cephalic, scapho-cephalic, etc. Again, resemblances to animals (apes, sheep, swine), in the shape of the head and face,

and sometimes in the habits, have been described as occurring in idiots; the patient represented in *Fig. Y*, was, on admission, at once named "Pongo" by a rather clever delusional lunatic. The heads of idiots are small as a rule, and some are very small (microcephalic); the head shown in *Fig. Y* is only sixteen inches in circumference. On the other hand, some, as the hypertrophic, and most of the hydrocephalic, are abnormally large. The skin may be of various degrees of pallor, yellow and smooth, or branny, cyanotic, healthy and normal, or infantile in texture and colour (*Fig. Y, Plate XXIV*). The eyes may be normal and even fine-looking; but they are frequently affected with nystagmus, strabismus (*Fig. Z, Plate XXV*), etc. The nose may lead straight down from the forehead, or be depressed at the base (*Fig. Y*). In the worst cases, the tongue lolls out (*Fig. Y*) and the saliva dribbles from the mouth. There are often malformations of the forehead, occiput, or sides of the head, and nearly always some, one or more, of the somatic stigmata or anatomical degenerative signs mentioned in the earlier sections of this paper; there is also frequently, especially in genetous cases, though these are perhaps not strictly speaking facial signs, highly vaulted or cleft palate. In many cases there are monotonous movements, and in some unprovoked alternations of laughing and weeping. W. B., represented in *Fig. Y*, has some of the characters of three types of idiocy, viz., microcephalic, scrofulous or "Mongol," and paralytic; he presents the following somatic stigmata, viz., abnormally small head, only sixteen inches in circumference (*Fig. Y* is about one-third life-size and may be compared with *Fig. X*, which is about one-fourth life-size, the head depicted in the latter being an average one); receding forehead; small occiput; large face in proportion to size of head; narrow and obliquely placed palpebral fissures; depression of base of nose; asymmetry of face; large size and low position of ears; large mouth; very large tongue; high palate. His tongue is always more or less protruded, and on its dorsum, when moderately far out, can be seen the transverse fissures of the Mongol type. The patient is fifteen years of age, his body is small, and he is bed-ridden, being unable to walk or even stand or sit alone, owing to muscular weakness and defective power of co-ordination; he knows no one, understands nothing that is said to him, cannot speak, is unable to feed himself, and the only trace of facial reaction that could be noticed in him was the faint glimmer of a smile when being photographed and sketched; like most idiots, he was pleased at being made a fuss over. Typical microcephalics are active, small in stature, bird-like in movements, pugnacious, often shapely in features, and capable, when the condition is not very pro-

Fig. BB.

Fig. CC.

Fig. DD.

Fig. EE.

nounced, of some improvement under training. In *Fig. KK*, *Plate XXVIII*, is depicted a typical microcephal, aged twenty years, with a cephalic circumference of only 15 inches, rapidly receding forehead, and small occiput; his height is 55 inches. Craniotomy has somewhat improved the prognosis in these microcephalous cases. In hypertrophic idiocy, the enlargement is more general than in hydrocephalic. In hydrocephalus, it is most prominent at the temples (*Fig. HH*, *Plate XXVII*); in hypertrophy, above the superciliary ridges. Hydrocephalic idiots, when the effusion is moderate and stationary, and there are no convulsions, are capable of considerable improvement; hypertrophic idiocy is a hopeless condition. In paralytic idiocy, there may be porencephalic cranial asymmetry; the face may be distorted or asymmetrical, or may only show very slight flattening and drooping on the paralysed side, more marked when the facial muscles are in action. Again, there may be no difference between the two sides of the face, or none except strabismus on the paralysed one (*Fig. Z*, *Plate XXV*). The nose is often slightly aquiline, and the eyes may be large and lustrous. *Fig. Z* represents a paralytic idiot's face in repose; the only indication of facial muscular disorder is internal strabismus of the left eye, yet the patient is suffering (and is bedridden) from spastic paraplegia, with left hemiplegia. He is, as his facial expression denotes, of a happy disposition, and *Fig. AA*, *Plate XXV* shows his exaggerated smile on being told that a relative was coming to see him. He is twenty-two years of age, and presents the following somatic stigmata; small head, 18⅞ inches in circumference, abnormally large mouth, hairless face, very irregular and defective teeth, large ears. His intelligence is about equal to that of a child two years old, and, unlike idiots with right brachio-facial paralysis, he can articulate a few simple words. Paralytic idiots are capable, with special training, of much intellectual improvement. As already seen (*Fig. Y*, *Plate XXIV*), the paralytic may be combined with other types. In some cases there are choreic movements.

Non-congenital cases can often be distinguished from genetous or strictly congenital cases by the physiognomy alone; *e.g.*, the case shown in *Fig. Y* is congenital, whereas *Fig. BB*, *Plate XXVI*, represents a non-congenital one, a girl of fourteen, an eclampsic idiot, whose face in repose would hardly lead one to suspect mental defect, the comely features offering a strong contrast to those of the boy. However, on the slightest excitement (being spoken to, sometimes even looked at, by strangers) up go the upper lip and nostril in the manner illustrated in *Fig. CC*, and remain so for an indefinite time, there being strongly marked oblique lines on the nose the while. The

levator labii superioris alæque nasi has already been mentioned as one of the muscles more or less atrophied in the sane, but often active in the insane, especially hebephreniacs. It is also often abnormally active in idiots and imbeciles. In her case the action is automatic ; there are no athetoid movements, but some years ago there were movements thought by the friends to be choreic. It has been said that the face in repose always betrays idiocy when present, but not always dementia ; the above case is one of many disproving the first part of this proposition. The prognosis as to mental improvement in the non-congenital (eclampsic, epileptic, traumatic, etc.) cases is, nevertheless, not so good as in the highest types of the congenital cases, although not so bad as in the worst. In examining a child to decide the question of idiocy, the presence of any of the somatic stigmata mentioned in this paper should be taken into account, as well as such physiological stigmata as inability to raise or support head, strabismus, nystagmus, habitually protruding tongue, muscular twitching or over-action, rhythmical movements, absence of hand-reflex, abnormally late walking or talking ; the condition of the fontanelles should be noted ; the state of all the senses should be investigated ; and the facial expression observed under varying conditions of action (attempts at amusement, etc.) and repose.

Imbecility.—The facial signs of imbecility differ only in degree from those of idiocy ; type for type, the former more nearly approach the normal. Imbecility merges gradually into degenerative mental disease, the delusional imbecile (*Fig. FF, Plate XXVII*) already described under the head of paranoia, being a typical half-way case ; into simple weak-mindedness ; into impulsive insanity (*Fig. DD, Plate XXVI*) ; or into moral imbecility, as in the hydrocephalic case (*Fig. HH, Plate XXVII*), cured, under training, of the mental weakness, or as in the sensorial imbecile (*Fig. JJ, Plate XXVIII*). The high-class genetous imbecile (*Fig. GG, Plate XXVII*), with prominent, staring eyes, half-open fatuous mouth, and slightly asymmetrical face (right angle of mouth lower than left), has a narrow anteriorly pointed upper maxilla, very irregularly placed teeth, and a narrow highly vaulted palate ; there is little or no facial reaction either to ludicrous, pleasing, or annoying propositions. Although above the average size, his dynamometric indications are, right hand grasp, 35 ; left, 50.

The large-headed (circumference of head, 23¼ inches), brachycephalic, angular-eared, epileptic imbecile shown in *Fig. EE, Plate XXVI*, when free from the immediate influence of his fits, has a fairly intelligent facial expression, and a true though somewhat slow facial

Fig. FF.

Fig. GG.

Fig. HH.

reaction ; but a sudden noise, shout, or push will cause him to fall down in a fit.

Cretinism.—In *endemic* cretinism, the head is large as a rule ; the face is pale and apathetic ; the eyes are expressionless, and generally squinting ; the zygomatic arch is very large ; the mouth is large ; the lips are thick, the lower one pendulous ; the superior maxilla is prominent, the inferior small, retreating, and obtuse-angled ; deafness is frequent ; goître generally present. The girl, aged sixteen, and only three feet high, shown in *Fig. II*, *Plate XXVIII*, is a typical *sporadic* cretin ; she has a broad face, with a grave, old-fashioned look, pug nose, pouting lips, and protruding tongue ; her skin is loose and baggy, her thyroid is not enlarged, but she has fatty tumours above the clavicles. The prognosis in cretinism is, as in other conditions in which the thyroid is generally implicated, much more favourable than formerly.

Moral Imbecility.—Any of the stigmata, anatomical or physiological, already mentioned may be present ; there may be facial twitching, eclampsia nutans, strabismus, highly vaulted or cleft palate, or deaf mutism. Stigmata are especially liable to be present when moral and intellectual imbecility are combined. In the hydrocephalic case, shown in *Fig. HH*, *Plate XXVII*, the head measures 23 inches in circumference, and, after seven years' training, there remain but few indications of psychical defect, except in the direction of moral imbecility. Besides the large globular head, there is right internal strabismus, and the base of the nose is depressed. The young deaf mute represented in *Fig. JJ*, *Plate XXVIII*, is the subject of a mild form of sexual perversion, leading him to object to wear male attire except under compulsion. His face suggests effeminacy, and his sloping shoulders strengthen the impression. It is often the case that male sexual perverts resemble females, and *vice versa*. Most habitual criminals are partially moral imbeciles, and some are altogether so ; they often present marks of scrofula, their heads are frequently badly formed and angular ; their features, especially those of the women, are ugly ; they are slow, dull, and stupid. Men (and women) of genius often present anatomical or physiological stigmata combined with obsessions (intellectual stigmata), perversions (moral stigmata), or general moral weakness.

For the photographs reproduced in *Figures D*, *I*, *J*, *V* and *W*, I am indebted to Dr. Wieglesworth, Medical Superintendent, Rainhill Asylum. For those reproduced in *Figures HH*, *II* and *KK*, to Dr. Shuttleworth, Ancaster House, Richmond, Surrey, late Medical Superintendent, Royal Albert Asylum. The remaining illustrations are

from photographs and sketches of patients in the West Derby Union Infirmary, taken by permission of Dr. Chapman, Medical Superintendent.

[It is to be feared that the facial lines and points to be observed in the Figures have in some cases a little suffered by the process of reproduction for printing, but still it is hoped that enough of the characteristic markings have been retained to be of service to the practitioner.—ED.]

[*Editorial.*

It seems to have been clearly made out by a large number of authorities in various parts of the world that **Duboisine** has a decided sedative and hypnotic action, especially in cases of insanity. There seems to be some doubt whether the drug acts in every case as both a sedative and hypnotic; it seems probable that this is the case in most instances.

Drs. Mazzocchi and Antonini[1] tried the neutral sulphate on twenty men and ten women, nearly all of whom exhibited symptoms of aberration, varying from slight exaltation of ideas to furious mania. More than two hundred injections were given, varying between ½ and 2 milligrammes, but never exceeding this higher limit in twenty-four hours. The injections were in no case followed by unpleasant phenomena, such as vomiting, vertigo, or visual hallucinations, but in nearly every instance there occurred, a few minutes after the injection, mydriasis, a sense of general weakness, and a diminution of the pulse-rate. In two-thirds of the cases a full hypnotic effect was realized fifteen or twenty minutes later, the sleep lasting five or six hours. The drug does not appear easily to lose its effect through the establishment of tolerance, for one patient, within the space of two months, received as many as fifty doses of 1 milligramme, this being as efficacious at the end as at the beginning of the period. There seems to be no advantage, therefore, in giving larger doses.

As a sort of control, other patients were treated with injections of atropine or morphine, but in no cases were the results as good. In order also to guard against the influence of suggestion, injections of water were also occasionally substituted for those of the drug, but in every case without result. The authors agree also with Belmondo in asserting that the intelligence may improve very markedly as the result of the injections; it was certain, too, that they had a markedly quieting effect in the cases of violent mania. It is too much to say, however, that all such cases received marked benefit. There were a few in which no very distinct action was evident. Individual pecu-

Fig. II.

Fig. JJ.

Fig. KK.

liarities seemed to militate against a uniformly successful record, but this is nothing more than would be expected. Complete indifference was only manifest in a single case, one of severe mania with delirium; but this is not sufficient to prevent the authors from having a high opinion of its efficacy in the treatment of insanity.

Lodde[2] discusses the value of **Chlor-hydrate of Hyoscine,** which he finds useful in the treatment of acute and subacute maniacal states, in delirium tremens, in the delirium of hallucination, in general paralysis associated with maniacal excitability, and in the *pre-* and *post*-exciting periods of epileptic crisis. The medicament may be employed with advantage in agitations of traumatic origin, and, indeed, in all those cases in which a maniacal condition is to be calmed down. Hyoscine is not to be considered as a curative agent for mania; and, on the contrary, certain states, such as cardiopathies and the cachectic conditions, may be looked upon as contraindications for the use of the drug in question. Hyoscine may be employed hypodermically, this being an advantage, especially in maniacal cases. The dose of the medicament may vary from ¼ to 1 milligramme, and even, in rare cases, to 2 milligrammes.

Klippel[3] maintains that disturbance of liver functions, as revealed by increase of uric acid excretion, diminution of urea, defective formation of glycogen, peptonuria and urobilinuria, may directly give rise to mental derangement. He relates a case in which this "hepatic insanity" developed acutely in a man aged sixty-two. Great restlessness, incoherence, and grandiose delusions were the predominant mental symptoms, but at times there were periods of depression; in these the excretion of urobilin was always less than during the state of exaltation. Death took place at the end of three months. There was no abnormal appearance in the brain; the liver showed a high degree of ischæmia, morbid growth of connective tissue, and marked atrophy of the hepatic cells. In chronic alcoholism and paralytic dementia urobilinuria is frequent; it sometimes occurs in other psychoses at the end of a stage of excitement, or periodically in melancholia. Hepatic insanity should be classed with insanity from renal disease and melancholia arising from gastro-intestinal troubles, each being a result of auto-intoxication. Therapeutically Klippel recommends such means as **Naphthol, Alkalies, Purgatives,** and **Milk Diet.**

REFERENCES.—[1] "Rif. Med.," Nov. 15, 1892; "Therap. Gaz.," May, 1893; [2] "Revue Internat. de Bibliograph Méd.," Sept. 25, 1892; "Therap. Gaz.," Feb. 15, 1893; [3] "Brit Med. Journ.," Feb. 18, 1893.

INSOMNIA. *Græme M. Hammond, M.D., New York.*

A recent apparatus, in the shape of a casque or helmet, has been constructed by Larat and Gautier, on the top of which a small electric motor is attached. The motor is capable of making about six thousand revolutions per minute, quite regular, producing a continuous vibration, which is transmitted to the cranium through the internal plates of the helmet. A *séance* of ten minutes given at six o'clock in the evening is sufficient, according to these observers, to produce a calm sleep, lasting the whole night. Eight or ten *séances* are sufficient to cure a case of insomnia, provided it is not due to organic disease of the brain.

[*Editorial.*

In a practical paper, Dr. Suckling[1] classifies the causes of sleeplessness as follows: (1,) Toxic—*e.g.*, from over-use of tobacco, alcohol, coffee, or tea; from Bright's disease, gout, the specific fevers, and especially influenza; (2,) Mental—as cerebral, neurasthenia, and nervous shock; (3,) Physical—*e.g.*, pain, respiratory diseases, causing dyspnœa and cough, and cardiac dilatation.

The general measures recommended are—for children, the avoidance of irregularity in the times of rising and retiring; evening lessons for very young children; excitement before going to bed; reading in bed; going to rest with the stomach empty. The foregoing, of course, apply to adult patients with some modifications.

Neurasthenic individuals should use large and well ventilated bedrooms, avoiding curtains around the bed. They should also rest on a sofa for one or two hours after the mid-day meal. In these cases, Dr. Suckling finds that half a pint of milk taken at night is a useful hypnotic in neurotic cases, and under its use they gained weight, while nervous irritability was much diminished. When insomnia arises from prolonged mental excitement, or brain work, regular daily exercise for two hours in the open air is useful, but fatigue must be avoided. A short walk at night after supper, and a little alcohol before going to bed, and in some cases a warm bath with cold applications to the head, will greatly conduce to quiet sleep.

A small quantity of stimulant at night is frequently indicated in senile insomnia arising from rigidity of the cerebral vessels. The best test of the utility of the stimulant is the fact of the patient awaking refreshed in the morning, and his ability to relish breakfast.

If drugs must be used, Dr. Suckling prefers **Bromide** and **Chloral** generally, with perhaps **Hyoscyamine** and **Indian Hemp. Sulphonal,** taken every other night, and in warm milk, is useful in mental cases.

Chloral, even in small doses, is dangerous if the heart is weak; Chloralamide or sulphonal may be tried; but, in these cases, **Morphine,** in small initial doses—*e.g.*, 10 minims of liq. morphinæ, is very useful, and is often dreaded without sufficient reason.

Dr. Simon[2] employs the following injection for the insomnia of children :—

℞ Chloral	gr. ij	Tincture of Valerian	gtt. xx
Tincture of Musk	gtt. xx	Distilled Water	℥j

This entire quantity is to be injected into the rectum, and, if necessity require it, the dose may be repeated if sleep does not come on in the course of two or three hours.

REFERENCES.—[1] Suckling, "Bir. Med. Chirurg. Review," Dec., 1892; [2] Simon, "L'Union Méd.," Nov. 1, 1892.

INTESTINAL SURGERY. *A. W. Mayo Robson, F.R.C.S.*

Since rapidity in operating is, next to asepticity, the key to success in all operations on the intestines, and since it is incontestably proved that a reversion to the older methods of suture without plates or bobbins occupies a longer time, it is scarcely likely that for some time to come, surgeons will discard the use of appliances which have shown them the way to success, and which enable them to perform anastomosis with rapidity and facility.

It is of the utmost importance that the new openings should be of such a size as to allow of after contraction, but we scarcely think it necessary to have openings of four inches, as proposed by Dr. Dawbarn[1], who proposes the use of plates five inches long, made of potato (*Fig.* 43) which he says forms a most satisfactory material that may be relied on to remain firm for a sufficient length of time and then to disintegrate.

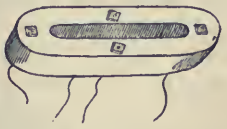


Fig. 43.—Dawbarn's Potato Plate ready for use (threads short and needles omitted).

If the mucous surfaces are united through the new aperture, as in the method advocated in the use of my decalcified bone bobbin, the after contraction is comparatively slight.[2]

Murphy[3] describes a new and rapid method of anastomosis by what he terms the "anastomosis button" (*Fig.* 44). It consists of two small circular bowls made of bone. In one bowl is fixed a small cylinder with a female screw thread on its entire inner surface. In the other bowl is fitted a smaller cylinder, of a size to slip easily into the female cylinder. On the inner surface of the lower end of the male cylinder two small brass springs are fixed, which serve to hold the bowls

together when the male cylinder is pressed into the female cylinder. In the side of each bowl are four openings which serve for drainage. The whole button has the form of two hemispherical bodies held together by invaginating cylinders. These hemispheres of the button are inserted in slits or ends of the viscera to be operated upon. A running thread is placed around the slits in the viscus, so that when it is tied it will draw the cut edges within the clasp of the bowl. A similar running thread is applied to the slit in the viscus into which the other half of the button is inserted, and the bowls are then pressed together. The pressure atrophy at the edge of the bowl is produced by a brass ring supported by the spring. The opening left after the button has liberated itself is the size of the button. For this device the inventor claims the following advantages: (1,) It retains its position automatically; (2,) It is independent of sutures; (3,) It produces a pressure atrophy and adhesion of surfaces at the line of atrophy; (4,) It ensures a perfect apposition of surfaces without the danger of displacement; (5,) It is applicable to the lateral as well as to the end-to-end approximation; (6,) It produces a linear cicatrix, and thus ensures a minimum of contraction; and (7,) It is extremely simple.

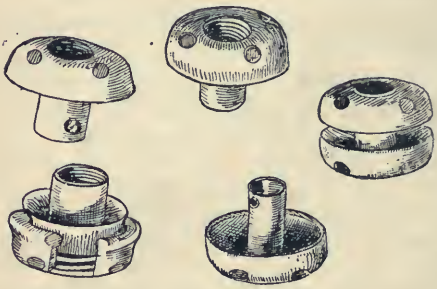


Fig. 44.—Appearance of Button, with and without spring cup attachment (after Murphy).

Dr. Keen[4] describes a case in which he used the buttons successfully to short circuit a stricture of the colon by performing ileo-colostomy.

Dr. Rutherford Morrison[5] suggests a new method of performing resection, which is apparently based on the principle of Dupuytren's enterotome, and it of course necessitates the making of an artificial anus for a time. It is likely to be of service in certain cases of gangrenous hernia.

Dr. Rallmage,[6] under the name of enteroplexy, has described a method of intestinal anastomosis by means of aluminium rings which he has found efficient in a number of experiments on pigs.

Dr. McGraw[7] advocates a method of intestinal anastomosis which he believes will do away with subsequent contraction of the orifices; it is based on the principle of securing mucous membrane through the new channel, no artificial plate or clamp being employed.

Dr. F. Byron Robinson,[8] of Chicago, has invented a plate consisting of a central metallic disc which firmly holds together two raw-hide plates of the size desired. No sutures are required to be used with the plate. The metallic disc is made small enough to pass readily through the ileo-cæcal valve, and adhesion from firm pressure is relied on. The object of the plate is to secure an ample anastomotic aperture without sutures and by means that will not interfere with fæcal circulation after breaking down.

Dr. Maunsell's method of enterectomy by invagination, described in last year's "Annual," is probably the most efficient method for intus-susception; and where artificial means are not employed it is, as the author states, the only operation as yet devised where rapid circular enterorrhaphy can be accomplished. It is, moreover, universally applicable to all parts of the intestinal tract.

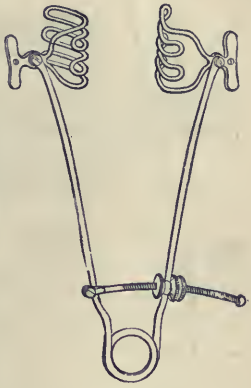


Fig. 45.

Dr. Maunsell's intestinal retractor and diaphragm are extremely useful in certain operations, especially in the performance of excision of the lower end of the sigmoid and upper end of the rectum, as described by the author in the "Lancet," Aug. 27, 1892. The accompanying diagrams (*Figs.* 45, 46, 47) are self explanatory :—

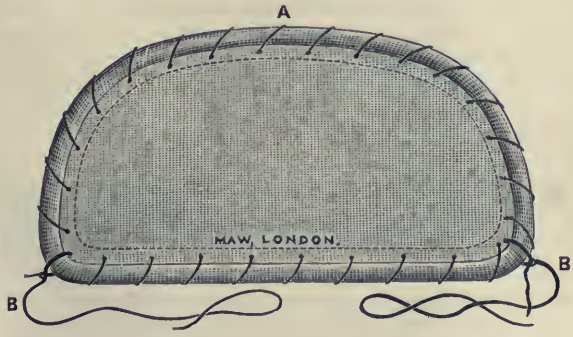


Fig. 46.—Wire intestinal retractor or diaphragm, 7 in. or 8 in. long and 3½ in. to 5 in. wide; frame made of copper wire run through thin rubber tubing and covered with two or three folds of aseptic gauze. B B, Strong silk threads attached to the lower angles and border of the diaphragm.

Dr. Lowson has reported in the "Lancet," 1893, a case in which he resected the cæcum, the greater part of the ascending colon and five inches of the ileum for malignant disease, with complete success, the continuity of the intestinal canal being established by means of lateral anastomosis after closure of the cut ends of the intestine.

Other successful cases have also been recorded by Mr. Bruce Clark,[9] Mr. F. Treves,[10] Dr. Edmunds,[11] and others.

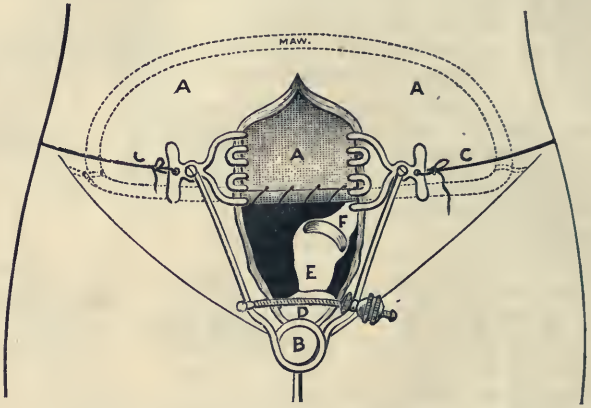


Fig. 47.—A A A, Intestinal retractor or diaphragm lifting intestines upwards and backwards. B, Steel wire spring laparotomy speculum with screw regulator. C C, Silk sutures from the intestinal retractor fastened to the perforation in the laparotomy speculum on either side. D, Bladder. E, Rectum. F, Loop of tape across the proximal side of the cancerous gut.

Braun[12] advocates lateral anastomosis under the following circumstances: (1,) In cases of intestinal resection, in which the divided ends of the intestinal canal are found of very unequal calibre; (2,) When the diseased or constricted portion of intestine is firmly adherent to surrounding structures; (3,) In cases of resection of the terminal portion of the ileum; (4,) When the two opposed segments of intestine are much reduced in size.

The first of these conditions is often met with in cases of cancerous stenosis, of old fæcal fistula, and of chronic invagination. It is often associated with inequality in the thickness of the intestinal walls at the two divided ends of the gut. In cases of gangrene of the cæcal extremity of the ileum it would be found impossible to establish intestinal continuity by circular suture, unless the whole or a large portion of the cæcum were also resected. The author holds that if further experience should prove that intestinal anastomosis is as a rule followed by good functional results, this operation, as it can be more easily and quickly

performed than circular suture, will in most instances of interrupted intestinal continuity gain increased favour, and be generally regarded as a preferable procedure.

Baracz[13] also strongly advocates Senn's methods in preference to simple suture.

Although we have always found the simple rubber band the best intestinal obturator, the clamp invented by Mr. Lane (*Fig.* 48) forms a useful alternative, as it occludes the lumen of the bowel without damaging the intestinal coats; it is made by Messrs. Down Bros.

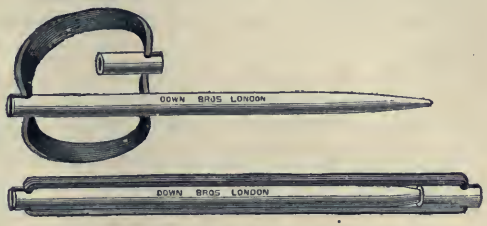


Fig. 48.—Lane's Clamps.

Transplantation of intestine has been suggested by Bacon[14] as a means of curing fibrous stricture of the rectum, though the author has as yet only proved its possibility on the cadaver; but Dr. Chaput[15] has performed transplantation of intestines on animals with uniform success in eighteen cases, and he advocates this in injury to bowel where the intestinal wound amounts to more than a fourth of the circumference of the gut, in place of resection.

Intestinal obstruction is by no means so easily diagnosed as text books would lead us to suppose; the proposal, therefore, in the "Medical Gazette," Jan. 16, 1893, by Dr. H. H. Mudd, is not without its practical importance, viz., to give a saline purge to clear up the doubt.

The following summary puts the arguments as briefly as possible:—

(1,) There is legitimate reason for the most skilled diagnostician to be in doubt in some cases of intestinal obstruction.

(2,) The differential diagnosis rests ordinarily between colic, peritonitis, and obstruction.

(3,) Laparotomy is accepted as the most reliable therapeutic measure for the relief of intestinal obstruction.

(4,) Laparotomy, to be a good therapeutic agent, must be performed early in the existence of the obstruction.

Pain and vomiting occur in obstruction; yet these conditions are present in constipation, in intestinal colic, and in many diverse conditions.

What are the effects of a saline cathartic on the three conditions above mentioned,—viz., colic, peritonitis, and intestinal obstruction?

Colic.—It will purge a case of colic, and a sedative then cures it.

Peritonitis.—It may arrest a peritonitis.

Obstruction.—It will develop and make plain the more serious condition of a mechanical obstruction. If given early in the case, the distress and aggravation of the symptoms, which it arouses, will subside under the use of morphine, and the general condition will then permit operative relief.

It is only where the doubt is sufficiently strong to control action that the saline purgative is used. It should be promptly given. The time for its efficient administration is in the lull or quiet induced by the first dose of morphine. It may again arouse ineffective and painful peristalsis, but it will in many cases resolve doubt, and determine surgical interference when it is still possible to save the patient.

Gangolphe[16] drew attention to what he terms a new sign of internal strangulation, viz., the presence of sero-sanguineous fluid in the abdomen similar to that found in the sac of a strangulated hernia. That this may be a sign we are prepared to grant, but we are able to state that it is not an absolute sign of internal strangulation, as quite recently we found similar fluid in the abdomen in a case of laparotomy for intestinal obstruction which was dependent on cancer of the sigmoid flexure of the colon.

Temporary typhlotomy in the treatment of complete obstruction of the large intestine was advocated in a paper by Mr. Harrison Cripps,[17] whose conclusions we can from experience fully endorse. They are as follows :—

"I would advise that, first, in all cases of obstruction in the large intestine, when injections have failed, and where neither the exact site nor the cause can be diagnosed, that the abdomen should be opened on the left side over the sigmoid flexure, but if this part of the bowel prove to be below the obstruction the wound should be closed, and the cæcum exposed on the opposite side.

"Secondly, I advise that a small opening should be made in the distended cæcum after stitching it to the parietal peritoneum, and that this opening may be ultimately enlarged or permanently closed according to the nature of the obstruction, as shown by the subsequent progress of the case."

Dr. Swann[18] reports a case of successful treatment of intestinal obstruction by Mr. Hutchinson's method of abdominal taxis under an anæsthetic. The author advocates the use of anæsthetics in all cases, and of taxis only in appropriate ones, recommending scientific caution and more delay before opening the abdomen in such cases.

Surgeons operating on the abdomen will do well to bear in mind the

pathology of intestinal obstruction following abdominal and pelvic operations.

In the paper by Dr. Ashton in the "Medical News," for July 30, 1892, the following classification of causes of post-operative obstruction of the bowels is given: (1,) Adhesions between the intestines and raw surfaces: (*a*,) To an omental stump: (*b*,) To denudations of the pelvic and parietal peritoneal; (*c*,) To the edges of the vaginal wound following suprapubic or vaginal hysterectomy; (*d*,) To a pedicle; (*e*) To raw surfaces on the intestinal wall; (2,) Paralysis of the intestines; (3,) Local spasm of the intestines; (4,) Impacted fæces; (5,) Bands of inflammatory lymph; (6,) Adhesions between coils of intestines or between the gut and neighbouring parts, due to traumatic inflammation; (7,) Kinking or twisting of the intestine, due to faulty technique; (8,) Including the intestine within the loop of a suture of the abdominal wall or between the edges of the abdominal incision; (9,) Slipping of a coil of intestine through a slit or an aperture.

Ulceration of Colon and upper end of Rectum.—We read a paper on the treatment of cases of ulcerative colitis and chronic membranous, and other forms of ulceration of the colon and rectum, before the Clinical Society[19] on June 3, 1893, and advocated the employment of colotomy and direct treatment of the ulcerated surfaces, when medical treatment had been fully tried and had failed. In a case related, the regular washing of the ulcerated surfaces by injection of boracic lotion from the anus to the artificial opening, and *vice versa*, served to effect the cure of a case after other means had failed, and ultimately the colotomy opening was closed by a plastic operation.

Sphincteroplasty after Rectal Amputation.—The good results of simple separation of the fibres of the rectus muscle in gastrostomy have led Willems[20] to believe that a similar advantage might be attained by fixing the cut edges of the remaining portion of rectum to a slit made in the gluteus maximus by forcible separation of its muscular fibres. The operation has been proved possible on the cadaver, but has not yet been tried on the human subject.

REFERENCES.—[1]"Annals of Surg.," Feb., 1893; [2]"Brit. Med. Journ.," Apr. 1, 1893; [3]"Med. Record," Dec. 10, 1892; [4]"Ann. of Surg.," June, 1893; [5]"Brit. Med. Journ.," Nov. 11, 1893; [6]"Jacobr Tenser," Buenos Ayres, 1893; [7]"Ann. of Surg.," Sept., 1893; [8]"New York Med. Journ.," March 4, 1893; [9]"Lancet," May 20, 1893; [10]Ibid., March 11, 1893; [11]"Brit. Med. Journ.," Oct. 13, 1893; [12]"Arch. f. klin. Chir.," Bd. 45, Heft 2; [13]Ibid., Bd. 44, Heft 3, 1892; [14]"Ann. of Surg.," May, 1893; [15]"Gaz. des Hospiteaux," No. 138, 1892; [16]"Rev. de Chir.," May, 1893; [17]Brit. Med. Journ.," Feb. 25, 1893; [18]"Lancet," Oct., 28, 1893; [19]"Trans. Chir. Soc.," 1893; [20]Centralb. fur Chir.," 1893.

JAUNDICE.

Dr. Cowe, of Brest, employs **Oil of Turpentine** as the best remedy in the worst cases of icterus.

REFERENCE.—"Bull. Gén. de Thérap.," Oct. 15, 1892.

JOINTS (Diseases of). *John Ridlon, M.D., Chicago.* *Robert Jones, F.R.C.S., E.*

Shoulder Joint.—In the traumatic form of chronic shoulder disease which is associated with adult life and which has scarcely ever been referred to by writers, the chronic symptoms gradually become engrafted upon a slight synovitis; some have described a not dissimilar condition which they include in the class of osteo-arthritis. The condition, however, presents many points of difference to tubercle, rheumatism, or to osteo-arthritis. The course is much more benign than tubercle; it occurs in individuals who are strong and active; it rarely, if ever, results in suppuration; it invariably yields to treatment and with but little variation in the length of time. From chronic rheumatism it may be readily recognized. It is not grafted upon an acute condition; it results from an injury; it is always worse after exercise; it is not an accompaniment of general rheumatism. With osteo-arthritis it should rarely be confounded. It never results in destruction or eburnation of joint surfaces; rest never tends to stiffen but to loosen the joint; it presents none of the characteristic symptoms of osteo-arthritis, and its clinical career has nothing in common with it. Rheumatism is certainly prone to complicate it, so that the patient complains fitfully, often in accord with atmospheric conditions. This, however, is the case in other non-rheumatic conditions such as fractures, in injuries of muscles, or even in a healing wound. The arm is held closely to the side; pain is complained of over the joint and often at the insertion of the deltoid (our friend Thelwall Thomas suggests this may be due to the constant endeavour of the muscle to hold the arm abducted); the patient is unable to sleep upon the shoulder, and should he accidently lie upon it he awakens in pain; acute pain is experienced upon pressing a point just below and to the outside of the coracoid process, which corresponds to the front of the head of the humerus. There is an inability to rotate the joint either inwards or outwards without discomfort. Abduction is limited, and elevation of the arm impossible. The surgeon, in short, elicits from the patient the following story: "My arm is weak and painful; I dare not lie upon it at night, or the pain becomes incessant; I cannot lift it from my side beyond a short distance; it pains dreadfully if I attempt either to get my hand behind my back or behind my head, and

yet I can touch my opposite shoulder without discomfort, and I can with equal ease push my arm forwards." So correct is this clinical description that the authors are never at a loss to anticipate a patient's story."

Subsequently shrinking of the shoulder muscles takes place, and finally the limb may become wholly useless. If abscess forms, which certainly rarely, if ever, occurs in this adult variety, the first true fluctuation will be made out in front of the joint.

In *tubercle*, where the trouble is primarily in the bone, the first symptom is usually restriction to full rotation and to carrying the arm backward. The patient finds that he cannot reach behind him and adjust his clothing in dressing with the accustomed freedom and dexterity, and the arm is held hugged to the side. Next, he experiences discomfort when lying upon his side, or, on awaking, from having slept upon his shoulder, he experiences severe pain. Shrinking of the muscles comes on early, and is a constant symptom. The progress of the disease, unless aided by art, is from bad to worse. The complications are abscess and subluxation. The tendency of the tubercular abscess is the same as elsewhere; if untreated, to descend as it approaches the surface and ultimately to rupture; if treated, a large percentage gradually disappear without going on to spontaneous rupture.

In our experience tubercular disease of the shoulder joint is more frequently "dry" than otherwise.

Pus, from a chronic abscess escapes through the weak parts of the capsule, finds its way under the deltoid, and may point anteriorly or posteriorly to the insertion of that muscle, or in the axilla.

The pathological displacement is important, and has not been noticed by previous writers. It is not necessarily dependent upon liquefaction of the head of the humerus, and is almost always accompanied by anchylosis. The shortening of the capsule, hugging of the limb, or marked atrophy of the deltoid, often give rise to suspicion of unreduced subclavicular or subcoracoid dislocation, and this is a not infrequent mistake, although in reality the head of the bone is very little displaced. One of the authors has been frequently asked to reduce such shoulders, the true condition having been unrecognized.

It must be emphasized that tubercular arthritis of the shoulder, without suppuration often results in anchylosis.

Differential Diagnosis.—In traumatic cases, the history of injury is important, and too much credit must not be attached to complaints of rheumatism as this frequently attacks an injured joint; tubercular

osteitis should not be mistaken for rheumatism on account of its insidious onset, and absence of early involvement of the soft parts.

When shrinking of the muscles is extensive and in cases that have experienced no pain, the part in appearance resembles certain spinal and traumatic palsies. In paralysis, however, there is abnormal passive mobility, while in joint disease the mobility is diminished or altogether wanting.

Prognosis.—Without treatment the disease almost invariably results in a shrunken, shortened, stiff, and pretty useless member. Under treatment, the shrinking, shortening, and stiffness are lessened, and if commenced sufficiently early and faithfully followed, a perfect cure not infrequently results with a full restoration of normal function.

TREATMENT.—Immobilization by leverage is not readily made; neither can the joint be satisfactorily held by any of the plastic dressings which surround the arm and the chest. Traction aggravates the pain in most cases, and the treatment gives less good results than at joints where it can be less advantageously applied.

The treatment which we have found most useful consists in restraining voluntary movements by applying the "halter" about the wrist and neck, and at times a supplementary band from the elbow round the body. A restraining influence is brought to bear locally by covering the shoulder with numerous strips of pitch plaster spread on stiff paper. These strips are laid on one over the other, covering the shoulder and extending well down over the scapula on the back, and over an equal distance in front.

In a few cases the weight of the arm gives rise to a dragging pain, and it is of advantage to support the member by a broad bandage passing from under the elbow over the shoulder of the opposite side.

In shoulder joint disease tubercular abscesses can be aspirated and their cavities and fungoid masses injected with the iodoform mixture more readily than elsewhere, and often with good result.

The treatment of the adult variety of chronic shoulder disease is the same as if it were tubercular; rest from pressure, friction and function. Treatment usually lasts for from three to five months, and the test of recovery most convenient to the practitioner is the patient's ability to sleep painlessly upon his joint. This form never results in anchylosis, unless neglected. The test of recovery in tubercular cases is in a fixed and painless anchylosis, or, where anchylosis does not exist, a range of motion which may tend to increase but *never* to diminish. With scapular movement always available, excision of the shoulder is never called for.

Elbow Joint.—Probably this joint suffers more than any other from the application of passive motions after fracture or dislocation before the inflammatory processes have entirely subsided. Chronic disease due to hereditary syphilis is not infrequent. At first some obliteration of the bony outlines is noted, and some thickening and tenderness can be made out between the olecranon and condyles on either side. Flexion and extension are somewhat limited, but no true involuntary muscular spasm exists until the bone is implicated.

A tubercular synovitis of the elbow shows merely some slight swelling and slight restriction to the full movements until the bone is invaded or abscess forms.

Tubercular osteitis is attended by restriction to normal motion, a sense of weakness, together with aching pain and shrinking of the muscles above and below the joint. As the tubercular focus penetrates the joint or comes to the surface a pulpy swelling is remarked, and the abscess points below and to the outer side of the external condyle. The forearm becomes flexed to from 40° to 70°, motion is almost or entirely lost, the bone ends become thickened, and numerous sinuses appear, except in the "dry" forms.

Treatment consists in placing the joint at once in the most useful position in case anchylosis should result, retaining it uninterruptedly in that position until a cure has been effected. The position of election is that of complete flexion. In some cases this can be done at once without much suffering; if not, the forearm is carried as far as possible towards the neck, the head is bent forward to meet it, and the "halter" is closely applied. In two or three days the head will have become erect, and the forearm will have approached the desired angle to a great extent; the head is again bent forward, and the slack in the "halter" taken up. This process is repeated until the desired position is gained, and the "halter" is then left at that length until the disease is cured. One of the authors is in the habit of fixing the wrist to the neck in full flexion immediately the elbow is found to be affected. By this means rest is secured to the joint, as the "halter" prevents extension, and the neck prevents flexion. If anchylosis threatens, there will be ample time to drop the wrist to a useful angle, which in the case of a labouring man is about 90°, for a shop assistant about 100°, while patients of independent means often prefer an anchylosis of about 35°, which is less awkward at table.

The "halter" consists of a broad piece of bandage sufficiently long to go round the wrist twice or thrice, and then around the neck. It may be fastened round the wrist with a half hitch, or passed twice round and knotted. It must be loose enough to avoid constriction, and yet

so tight as to prevent the withdrawal of the hand. Near the neck the bandage is again knotted and then tied round the neck. The bandage should, if possible, be passed through a tube of leather, which acts as an excellent padding against the neck, and then through a leather band stitched around the wrist.

All knots should be sealed to render it certain that the bandage has not been tampered with, and the dressing should only be changed when cleanliness demands it.

Splints in the case of the elbow should be avoided, on account of their discomfort, and the pressure on the vessels of the arm by which the reparative process is hindered.

Abscesses may be aspirated and injected with iodoform mixture, although there is no direct evidence that recovery is hastened thereby. Excision and amputation should be considered only when life is threatened, and it should be remembered that the most imperfect results obtained by mechanical means give a stronger limb than the best results of excision. The test of recovery is founded on the principle that, as disease advances, motion becomes limited. When swelling has subsided, and the patient feels his arm is well, the "halter" should be lengthened two inches ; and if in a few days the patient can lift his hand to the point from which it was released, recovery is assured, and the wrist may be allowed a further drop. If anchylosis has resulted, the test of its soundness may be made in accordance with the principle, that a stiff joint is free from disease when it does not limit its angle by use.

Wrist.—Chronic disease of this joint is rare in children, except as a result of hereditary syphilis. In adults it appears to be most frequent after slight but neglected injuries. In such cases it commences as a synovitis, and swelling is the prominent symptom. Cases are met with, however, where there is no swelling, and where restricted motion and muscular spasm point to an osteitic focus. Here swelling usually comes on early, accompanied by heat, pain, restricted motion, and some deformity in the direction of flexion, and the patient usually supports the diseased part with the other hand.

Left untreated, the hand frequently becomes flexed at a right angle to the forearm, and motion is completely lost. Abscesses usually form, and present as a rule on the dorsum of the wrist and hand. Prognosis from mechanical treatment is good, both as regards position and usefulness. The treatment can be most satisfactorily conducted by a simple splint of sheet iron bent to a hollow to fit the forearm, and with a T-shaped ending at the hand. The part of the splint on which the hand rests should be placed at an angle of about 40°,

the lateral wings of which are bent round, and grasp the hand at the metacarpo-phalangeal articulation, the whole being held in place by strips of adhesive plaster. The flexion should be overcome as rapidly as possible, and the hand immobilized in an extended position. This extended position is of very great importance in the treatment of the wrist, and is not referred to by any writers on the subject. To give an effective grip the hand is always extended, not flexed. Hence the necessity of the extension to secure the full use of the wrist subsequently. So true is this that when a patient consults us, complaining of faulty fingers, should his wrist be anchylosed at flexion, we promise improved power of bending the fingers when the anchylosis is attacked by the wrench, and the wrist placed in extension instead of flexion. The forearm is then suspended in a comfortable position in a sling or "halter." The management of abscesses is the same as at other joints. Excisions and erasions are no more demanded here than elsewhere, and, as in the case of the tarsus, are more mutilating in their results than at the larger joints. As a life-saving measure they may be demanded, as may be amputation.

Hip-joint Disease.—Dr. A. M. Phelps[1] defines etiologically the three stages of deformities in hip-joint disease, viz. flexion, abduction, and outward rotation in the first, and flexion, adduction, and inward rotation in the second. The reason for these deformities is explained by the altered action of the muscles on account of the change of leverage by reason of the flexion of the limb. After the limb is flexed beyond twenty-five and forty degrees from a horizontal plane, the glutei muscles largely become abductors, with the exception of the quadratus femoris, and external obturator.

The first stage is produced by the voluntary effort on the part of the patient to relieve the pressure of the Y ligament and capsule of the joint; hence abduction, outward rotation, and flexion. Spasm of muscles and a voluntary effort exaggerate the deformity of the first, constituting the deformity of the second stage. Now, when the flexion takes place beyond thirty degrees, and often with a lesser degree of flexion, the adductors, glutei and tensor vaginæ femoris rotate, and the flexion causes the deformity of the third stage, viz., adduction, flexion, and inward rotation. The erratic deformities are accounted for by the destruction of bone changing or destroying leverage, burrowing of pus, dislocation, perforation of the acetabulum, and locking of the head in the pelvis, possibly location of lesion, adhesions, and irritation of special nerves supplying the joint. The fluid hypothesis taught by Sayre is erroneous, because many cases are unattended with fluid effusion, and in many cases amongst the

deformities seen in hip-joint disease the lesions are extra-capsular. Still deformities are also seen in such cases.

Dr. R. W. Lovett,[2] says that we have no pathological knowledge sufficient to enable us to assert that certain phenomena mean that the bone is affected, or that certain others mean the involvement of the synovial membrane, and that on this account a classification of hip-disease based on the pathological condition present is premature, and likely to be of little practical value.

He then goes on to say that hip-disease may be divided into four well-marked clinical types, each of which corresponds to a particular type of the pathological process, namely : (*a*,) The destructive form, where the disease is rapid, severe, and but little influenced by ordinary treatment. Extensive infiltration of the soft parts takes place, and in most instances the disease passes on to a fatal issue ; (*b*,) The painful form, where pain is a prominent symptom and exacerbations are common ; (*c*,) The quiet or painless form, where pain is an unimportant factor or is entirely absent ; (*d*,) The transient or ephemeral form, where the symptoms are mild and the course of the disease is run in a few months.

Messrs. Bilton Pollard and Marshall[3] describe thirty-seven cases of excision of hip-joint by an anterior incision, preserving as much of the Y ligament as possible, considering that this limited the displacement upwards so common in excisions ; tubercular foci were well scraped out by flushing gouge (Barker's). The results are 21·6 per cent. known to be dead ; 10·8 per cent. died from operation.

Twenty-seven cases have been followed up, seventeen of which are healed and going about without splints or supports.

The remaing ten are still wearing Thomas's splints, six having a sinus. So that the results can be stated thus : 10·8 deaths ; 45·9 healed ; 27 still under treatment ; 17 with sinus.

Thus less than 50 per cent. can be said to be cured ; surely a very small record.

H. G. Howse[4] read a paper on the advantages of amputation through the thigh as a preliminary, or instead of amputation through hip-joint, where the hip-joint was diseased, and the patient in a very bad condition.

As reasons for this apparently peculiar proceeding he adduces two : (1,) By reduction of length of lever, having its fulcrum at the hip-joint and so favouring rest ; (2,) By removal of a mass of tissue acting chiefly as blood consuming, and very little as blood producing, tissue, thereby probably favouring the production of blood of better quality and larger amount.

We might instead of the second argument, or in addition, state another, that the removal of a suppurating area producing a chronic septicæmia places the patient in a much better position for any further proceeding, as in a case (No. 1) where the opposite leg was removed, for advanced joint disease in the knee and subsequently excision of the hip on the other side.

The question of leverage is really one of insufficient fixation which we have rarely had any difficulty with by suitable splints.

Following amputation through knee we know that vessels of the thigh would materially decrease, rendering no doubt the subsequent amputation through hip less sanguinary, and therefore more likely to be recovered from.

Dislocation of Hip in Child three years of age.—Surg. Major Davidson,[5] I.M.S., describes this dislocation as iliac, and reduced it under chloroform after some difficulty.

Paralytic Luxation at Hip-joint.—Prof. Hofrath,[6] Vienna, describes this as following infantile paralysis. A portion of the head of the femur was removed, and the knee joint opened to remove some bone so as to make a straight limb.

The limb was absolutely useless before operation, but the anchylosis brought about produced a limb which with the support of a Lorenz's apparatus became capable of supporting its due share of the body weight.

The case is interesting as exhibiting the fact that operative interference in paralysed limbs often do well, and they confirm the observations of Mr. Robert Jones, who has frequently performed the operation in infantile paralysis with flail knee.

Lateral dislocation at the knee-joint due to tubercular Disease or Paralysis, with especial reference to Treatment.—Dr. T. H. Myers[7] finds that the deformities which occurred in these two diseases differed only in degree, and therefore thought a similar origin most probable. The relaxation or destruction of the ligaments was of much more importance, in permitting the subluxations and rotation, than the destruction of bone, and the reflex muscular spasm and shortening of the fascia, the factors producing the deformity. The location of the disease did not seem to influence the position of the limb. In paralysis as well as osteitis, flexion of the limb occurred before other deformities. In that position, the internal crucial ligament mainly prevented subluxation backwards, and as it was inserted to the inner side of the axis of rotation of the leg, prevented inward more than outward rotation of the tibia. The spine of the tibia prevented rotation only when the ligaments held the bones firmly in apposition.

Attention was then called to the obstacles preventing reduction of this deformity and its dangers. The treatment in use for this deformity was reviewed, and the general reliance on crutches deprecated. Dr Myers recommends, on account of its simplicity, a method he had used successfully, for redeeming the troublesome outward dislocation of the tibia. By adhesive straps traction was exerted on the point longitudinally in the direction of deformity, and also diametrically opposite the subluxation by a webbing strap carried behind the head of the tibia and fastened over a spring thrown across a large window which was cut in the plaster of Paris splint used, to allow room for the leg bones to be drawn forward and inward. A perineal crutch completed the apparatus.

Fracture of Patella.—Wm. Anderson, of St. Thomas's Hospital, records yet another method of treating this fracture by driving two strong steel pins in front of the fragments but beneath the quadriceps extensor parallel to one another—fixing their points after approximating the fragments—in a cork, and their heads by a figure of eight of silver wire.

The methods of treating fractured patella will soon be legion; ninety-one different proceedings were collected from surgical literature by a French author last year.

REFERENCES.—[1] "Med. Record," July 15, 1893; [2] "Med. Record," Oct. 8, 1892; "Trans. Amer. Orth. Assoc.," vol. v, 1892; [3] "Lancet," July 23, 1892, p. 186; [4] "Brit. Med. Jour.," Nov. 12, 1892; [5] "Lancet," Aug. 29, 1893; [6] "Med. Press," Aug. 17, 1892; [7] "Med. Record," Oct. 8, 1892; "Trans. Amer. Orth. Asso.," vol. v, 1892.

[*Editorial.*

Tuberculous Arthritis.—Dr. de Saint-Germain's[1] treatment of this by means of injections of **Copper Phosphate** is as follows: Two solutions are prepared, and they are mixed without being filtered. The first consists of 5 parts of crystallized sodium phosphate dissolved in a mixture of 30 parts each of glycerine and distilled water; the second, of 1 part of copper acetate dissolved in a mixture of 20 parts each of glycerine and distilled water. Care is taken to shake the mixture of the two solutions before making use of it.

A hypodermic syringeful of the mixture is deeply injected under full antiseptic precautions, and immediately on its withdrawal the wound is sealed with collodion. The temperature soon rises to 100° or 103° Fh., and the fever may last for two or three days. Pain is sometimes complained of on the first or second day after the injection, but it is usually slight. Should pain not abate within a fortnight the injection is repeated.

The treatment of hydrarthrosis of the knee may be assisted by frictions with the following[2]:—

℞	Lanoline	gr. 60	Tincture of Iodine	gr. 10
	Deomatol	gr. 15	Ess. of Wintergreen	gr. 5

Envelope with cotton wool after each friction.

Rendu[3] successfully treated a case of purulent arthritis by injecting **Corrosive Sublimate** (4 to 1000) into the joint after aspiration and removal of the pus. The temperature fell at once and other symptoms improved, but the effusion increased, and eight days later the aspirator drew off pure serum, after which the cure was complete. A microbe was discovered in the pus identical with the gonococcus.

REFERENCES.—[1]Saint-Germain, "Province Méd.," April 29, 1893; [2]"Med. Press and Circ."; [3]"Res. Méd. Chirurg.," 60 année, No. 7.

KERATITIS.

Synopsis.—(Vol. 1893, p. 331.) In third stage **Aristol** may be dusted in to clear corneal opacities (Wallace). Lang orders bathing with **Boric Lotion** as hot as can be borne for five minutes, followed by insertion of **Yellow Oxide of Mercury Ointment**, and rubbing lids over cornea for two minutes.

KIDNEY (Surgery of). *E. Hurry Fenwick, F.R.C.S.*

Neuralgia of the Kidney.—Dr. Felix Lequen[1] raises the question of the relief often obtained by patients from nephrotomy after having suffered from classical symptoms of renal calculus. The following case is quoted from Guyon's practice: A male, æt. twenty-six, had suffered from repeated attacks of violent pain in the region of the left kidney, extending downwards to the testicles. There was also hæmaturia, vesical tenesmus, and vomiting. Nephrotomy was performed, but no calculus could be found, and the patient was relieved.

Similar cases are reported by Sobater, Durham, Reynaud, Tiffany, and others. In one instance a subsequent autopsy, and in another a nephrectomy demonstrated the absence of disease of any kind.

The only reliable data of the presence of a calculus are to be found (according to Dr. Lequen) in the careful observation of the effect of bodily movement upon the pain, and hæmaturia.

If these symptoms are produced or exaggerated by exercise and cease with repose, to be again excited by a renewal of the bodily movements, a calculus may be diagnosed. [This statement is too dogmatic. Certain cases of tubercle, and also of renal carcinoma before a tumour has appeared, have been able to evoke pain and hæmaturia upon exertion.—Collaborator.]

Nephrotomy.—An important investigation has been carried out by Dr. Barth[2] (Marburg) concerning the healing of renal wounds and

the restoration of renal tissue. The animals chosen were rabbits, guinea pigs, and dogs. Large wedge-shaped pieces were excised from the kidneys, generally in the longitudinal direction, and the wound closed in the usual manner. Although the wound rapidly healed, the renal tissue in the neighbourhood underwent *grave nutritive changes* in consequence of the disturbance of the circulation.

Dr. Barth stated that the microscopy of kidneys which have been treated in this manner shows that the urinary canaliculi are most severely implicated and may be discovered in all grades of destruction, from complete necrosis to the slightest alteration of their epithelial lining. Granulation tissue, however, quickly originated in the Malpighian capsules and intertubular spaces, and pushed its way into the coagulum of blood filling the defect, and replaced it completely by the eighth or eleventh day. Contraction and cicatrisation then ensued. It was noticeable, however, that renal tissue was under no circumstance reproduced, as asserted by Tuffier, Kummel and Paoli.

Compensatory hypertrophy, however, took place in the operated as well as in the intact organ, being especially noticeable in the cortical substance by an increase in all its elements. The glomeruli enlarged, their capsules dilated, and the canaliculi grew in circumference, and also probably in length.

Minor Renal Operations.—The curative effects of minor operations in renal affections is well treated by Dr. Oscar Bloch,[3] who supplies an important addition to our knowledge of the surprising effects which often follow exploratory incision in certain obscure renal cases. He relates three cases. In one the adhesions between the fibrous and the fatty capsule were separated with complete relief of all the symptoms; in another, which was suffering from symptom of renal stone, the incision into the renal tissue was followed by a like effect; and in a third, which presented symptoms of renal neuralgia, was cured by splitting the capsule crucially.

Mr. Hurry Fenwick advocates this latter procedure in obstinate renal neuralgia, and has published similar examples in "Cardinal Symptoms of Urinary Disease," p. 246.

Nephrectomy.—Nephrectomy, with resection of one or more ribs, if necessary, is advocated by Lange (New York), who holds that dogmatic rules about which incision should be used in nephrectomy, should not be laid down. The size, and especially the position of the organ, also the nature of the disease, decides one or other of the two routes (abdominal or lumbar) to be preferable. In one woman, in whom the lower portion of the thorax was narrow, he resected the last

two ribs, and thus widened the lower aperture of the thorax considerably.

Mr. Morris,[4] in a lecture on nephrectomy, places twenty-three cases of this operation on record, and points out from his own experience that the consequent mortality varies much more with the nature of the disease than with the method of operating. He states that if nephrectomy was limited to hydronephrosis, to disorganization from calculus, to the rare cases of renal and ureteral fistulæ, and to movable kidney for which it would be justifiable to operate, the mortality would not be much higher than that of ovariotomy. The malignant renal tumours, the supra-renal tumours, the tuberculous affections of the kidney in which other organs, and too often the other kidney itself, are affected by the same disease, form the reasons why the mortality of nephrectomy should be so high. He points out, therefore, that it is not fair to patients suffering from the less hopeless conditions, and with a state of general health not unfavourable to recovery from nephrectomy, to hesitate in recommending them the benefit of the operation, because of a death-rate largely formed by hopeless, or all but hopeless, cases. Mr. Morris's statistics bear out this contention—six cases of hydronephrosis without a death ; seven cases of calculous affections with two deaths ; five cases of nephrectomy for solid tumours with two deaths ; five cases of a tuberculous disease with three deaths. If taken over the whole series the mortality is 7 in 23, or 30·4 per cent.

Mr. Morris remarks that convulsive seizures co-existing with urine of a sp. gr. never higher than 1010, or 1012, with a temperature often a little subnormal and with occasional attacks of vomiting or feeling of sickness, should excite suspicion as to the presence of progressive chronic degeneration of the kidney. A case of double hydronephrosis in which the above symptoms were observed, is detailed and an especial point is made of the mental change which took place. From an active woman, physically and mentally, and of a cheerful disposition, the patient became a nervous, desponding, and suffering being, constantly requiring medical attention, always reclining upon a bed or couch, and subject to frequent and severe pain. Convulsive seizures were noticed before nephrectomy. The loss of energy, general apathy and changed disposition ; the loss of the most ordinary confidence in herself, her dread of being left alone for fear of something terrible happening to her ; and her inability to concentrate her attention upon the simplest reading, as well as the convulsive seizures, was proved to be due to insufficient renal action caused by double and extreme hydronephrosis.

Schede,[5] of Hamburgh, records a series of ten cases of nephrectomy

without a death. Formerly he had operated seven times with six recoveries, thus making a total of seventeen cases with one death. This, as the cases are not picked, shows how the mortality has decreased in the hands of a highly skilled general surgeon, for the statistics of Gross showed a mortality of 44·6 per cent., of Brodeur, 44·4 per cent., and of Czerny, 44·4 per cent. Since the extirpation of renal tumours by means of the various retro-peritoneal incisions has been successful, and the much more dangerous abdominal incision has become almost obsolete, we are certainly justified in looking for more favourable results of kidney extirpations. Of these ten cases three were for carcinoma, two for tuberculosis, four for pyonephrosis ; but the most interesting case was one of uncontrollable renal hæmorrhage.

A man, aged fifty, passed bloody urine for the first time after a cold drink. He had frequently before noticed a sensation of cold in the left lumbar region. If he remained quietly in bed the bleeding ceased, but it returned directly he got up. Styptics did not relieve the condition, and the blood was proved by catheterism of the ureters to issue from the left ureter. Left nephrectomy was performed, the kidney substance was found to be very friable, and microscopical examination of it revealed what was invisible to the eye, viz., an anæmic condition interspersed with small petechia and decayed cylinders covered with red blood cells.

Stone in the Kidney.—A very remarkable case of calculous pyelitis, with complete suppression of urine for seven days, relieved by operation, is recorded by Dr. A. T. Cabot. A male, æt. sixty, who had suffered for seven years from renal colic of both sides, was suddenly seized with pain in the left kidney and total suppression. The anuria continued for three days, when a catheter was passed, but only one drachm of turbid urine was obtained. An examination was made, but nothing could be detected except a prostate of moderate size. At the end of the seventh day his condition was as follows : The patient was quiet and did not at all look like a sick man. "There was no nausea, no headache, no drowsiness ; in fact, he said he felt perfectly well. There was no tenderness anywhere, even on considerable pressure. His tongue was dry. Pulse 76, of fair strength." In view of the total suppression of urine accompanying the attack of pain in the left side, it was thought probable that the right kidney had previously been rendered useless either by destruction of its secreting apparatus, or by blocking of its ureter, and that now a calculus had shut off the secretion of the remaining kidney. It was decided to explore. On the morning of the operation (between seven and eight days after the establishment of complete anuria), the patient began to show evidences of con-

stitutional disturbance, the pulse and temperature rising, and there was a commencing mental hebetude. Both kidneys and ureters were examined by the hand through a median abdominal section, but though the right was enlarged, the left was healthy, and no blocking calculus could be detected on either side, and the operation was abandoned. Three hours after a copious diuresis ensued, two gallons being secreted in twenty-four hours. A fortnight after, a few grains of calcareous material were removed from the bladder by means of a stone evacuator, thus completing the evidence that the ureter had been stopped by a calculus which had been displaced by manipulation during the operation.

The fact that the pelvis of the left kidney was not distended with urine seems to show that the function of this organ was stopped by an inhibitory action due to the irritation of the calculus in that ureter, and was not due wholly to the obstruction to the flow of urine, and to the back pressure exercised by this obstruction. This cessation of the secretion of urine in this kidney should explain the short duration of the pain, when this ureter was blocked. The patient recovered.

The following conclusions are drawn from this case, and a consideration of the literature :—

(1,) That in a calculous patient, or in a patient with a distinct attack of renal colic, the suppression of urine should be regarded as directly due to the stone—and in the majority of cases both kidneys will be found to be disabled—for the cessation of the functions of a healthy kidney due to irritation of a stone in the opposite ureter must be very rare.

(2,) These cases should be treated by operation as soon as it has been found that the function of the kidney has come to a standstill, as there is little chance of a stone being pushed along the ureter when the kidney is no longer excreting urine behind it.

(3,) In the absence of any evidence as to the location of the calculus, the first step in such an operation should be a median laparotomy with the hope of discovering the whereabouts of the stone in order to proceed intelligently for its removal.

(4,) Massage of the ureters and pelves of the kidneys from above downwards should be practised, if no calculus can be found, in the hopes of dislodging or breaking up a small calculus if such exists.

Mr. Day[6] has removed a large right renal stone, weighing 1331 grs. from a woman, aged thirty-two. The symptoms had existed fourteen years, and they consisted in occasional pain in the right loin, lasting perhaps three days, with intervals of complete freedom. Apparently a right renal tumour had only been noticed a year, and coincidently with

its appearance was the change of the urine to a thick and slimy condition. The right lumbar incision was made, and the stone which was mainly phosphatic was successfully removed in two sittings. Probably this is the largest calculus removed from the kidney.

Syphilis of the Kidney.—Dr. Israel[7] reports two cases in which, contrary to the teachings of works on surgery, syphilis of the kidney occasioned a tumour which led the surgeon into error. Two forms may be encountered—interstitial nephritis and gumma.

CASE 1.—A girl, aged twenty-three, after increased thirst, stomach cramps, and frequency of micturition, suffered from continuous pain in the back which was later on localized to the right side. There was loss of flesh, and a tumour developed in the right renal region. Anti-syphilitic treatment was instituted, and appeared to give good results for as time, but as collections of flattened cells agglomerated into rounded masses and surrounded by a species of girdle composed of fusiform cells began to appear in the urine in the form of a whitish deposit, an exploratory incision was made, and the kidney was found so altered that it was finally extirpated. Recovery was rapid. Examination of the kidney showed the tumour to consist of syphilitic interstitial nephritis, with hyperplastic peri- and para-nephritis.

CASE 2.—A male, aged thirty-nine, with syphilitic and malarial antecedents, complained of a continuous pain on the left side, with swelling at the tenth rib. An abscess of the spleen was thought of, and an incision was made, releasing a yellowish curdy white material, but no pus ; a fistula remained. The kidney was finally diagnosed as tubercular and was extirpated. The microscopy revealed gummatous degeneration without a trace of tubercle.

REFERENCES.—[1] "Annales des Malad. des Org. Genito-Urin.," Aug., Sept., Nov., 1891 ; [2] "Annals of Surg.," vol. xvi., p. 449 ; [3] "Hospital Tidende," No. 1, 1892 ; [4] "Brit. Med. Journ.," p. 3, Part 1., 1893 ; [5] "Annals of Surg.," p. 446, vol. xvi. ; [6] "Clinical Trans.," p. 24, 1893 ; [7] "Deut. med. Woch.," No. 1, 1892.

Synopsis.—(Vol. 1893, p. 15.) For the albuminuria of chronic kidney disease, or when after acute nephritis urine is scanty, or in chronic contracted kidney with œdema, **Cantharides Tincture** ½ to 1 drop three times a day, with or without **Digitalis**, will frequently give most favourable results.

LABOUR.

Induction of Premature Labour.—The methods of inducing premature labour have recently been much discussed. Krause's method of introducing a bougie into the uterus is practically safe if done antiseptically, but since the desired effect is rarely accomplished under three days, it is an exceedingly tedious procedure. Dr. Ernest Herman[1] enumerates

the advantages of Champetièr de Ribes's bag over Barnes's : (1,) One introduction only is required ; (2, The inelastic material of which it is composed gives a better indication when the bag is fully distended ; (3,) The method of introduction by the special forceps ; (4,) Complete instead of partial dilatation ; (5,) The minimum amount of risk entailed in case of rupture of the membranes during introduction, as Ribes's bag completely fills the cervix uteri and retains most of the liquor amnii ; (6,) The possibility of accelerating dilatation by pulling on the bag if the pains are weak. Its chief disadvantage is in point of size when folded, which is rather more than the thickness of a finger, so that preliminary dilatation by a tent or other instrument is frequently necessary.

Among other indications for its use, Dr. Herman mentions cases of early rupture of membranes, with transverse positions, or with contracted pelvis. In accidental hæmorrhage, when the bulk of the uterine contents has been lessened by letting off the liquor amnii, the dilating effect of the lost fluid may be replaced by this bag. In placenta prævia he would expect it to dilate the cervix, and at the same time press upon the bleeding vessels better than any other artificial means.

Dr. Barnes claimed for his bag : (1,) Ease of introduction—the ordinary uterine sound can be used for this purpose ; (2,) The bag, expanding at both ends when filled with water, bore with even pressure upon the two rings of greatest resistance, namely, the os internum and the os externum ; thus the entire cervical canal was expanded, offering free access for the forceps or for turning, or for the unaided passage of the child ; (3,) It secured the object desired with the minimum of force, and without displacing the relation of the parts of the child, since the ball of the head lodged in the hollow of the uterine end of the bag ; (4,) It dilated the cervical canal throughout, making it of equal calibre, or nearly so, with that of "Barnes's boundary line," which coincided with the equator of the child's head.

He considered that de Ribes's bag had the following faults : (1,) Difficulty of introduction ; it was passed in by squeezing it in forceps, an awkward proceeding requiring sometimes an assistant ; (2,) Its expanding action was spent mainly upon the os internum and lower segment of the uterus, leaving the os externum comparatively untouched ; (3,) It had the very serious faults of displacing the head, often converting a natural presentation into a transverse or dorsal one, thus rendering the operation of version necessary.

Dr. C. Pelzer[2] recommends the induction of premature labour by passing a soft catheter into the cavity of the uterus, between the

uterine wall and the fœtal membranes, and injecting through it about 3 ounces of glycerine, whereby gradual separation of the membranes is effected. The glycerine is kept from flowing out by causing the woman to maintain the knee-elbow, or Sim's posture. Powerful pains come on in from half an hour to an hour and a half.

Glycerine renders the neck of the uterus very dilatable, but aside from this has distinct oxytocic effects. Air-embolism has not been observed as a consequence of its employment.

Dr. H. Stillmark[3] reports a confinement case in which he made most successful trial of **Wine of Ipecacuanha,** which Draper commends as producing energetic labour pains, after two or three doses of 10 to 15 drops.

In the course of a clinical lecture on dorso-lumbar kyphosis complicating labour, Tarnier[4] described his method of measuring the pelvic outlet. The patient is placed on her face with the nates somewhat raised. The hands of the accoucheur are placed outside the ischial tuberosities, the thumbs being pressed against them. An assistant then measures the distance between the thumb nails, which should normally be two and three-quarter inches.

Injections after Labour.—Keifer[5] condemns the use of the antiseptic intra-uterine injections after a normal labour, arguing that such a procedure hinders a physiological hæmostasis, destroys an element that may prevent relaxation of the uterus, diminishes the vital resistance of the injured tissues, lets in air that may itself be an origin of infection, and introduces pathogenic germs notwithstanding the greatest precautions. It is no more reasonable to wash out the uterus after a physiological delivery than it is to apply injections after each menstruation, or to douche the urethra after each ejaculatory act. The non-occurrence, on the other hand, of any accident after the uterus has been washed out, is no conclusive proof of the efficacy or innocuousness of the injections ; but a positive fact, and which cannot be denied, is the poisoning—the condition of syncope—which may be produced in the most normal cases, and where the injections are manifestly the cause.

Management of the Placenta in Delivery.—Beaucamp,[6] of Aix-la-Chapelle, publishes statistics of five hundred labours conducted after Ahlfeld's principle of leaving the placenta two hours' time to come away. He found that the average of flooding was high. In one hundred and sixty-three cases where flooding occurred, the placenta was discharged spontaneously eighty-nine times before the two hours had elapsed ; in sixty-seven cases it had to be expressed. Beaucamp concludes that expression of the placenta should be performed within

half-an-hour, as that practice involves less risk of hæmorrhage, nor does Ahlfeld's method lessen the risks of retention of membranes. This occurred in one hundred and two out of the five hundred cases. A very important piece of advice is added to these statistics. Beaucamp urges, contrary to Ahlfeld's opinion, that the midwife must stay with the patient yet two hours more after the delivery of the placenta; for in his five hundred cases flooding came on in twelve cases within the first two hours after the placenta had been expelled. Hence, if the midwife be ordered to wait two hours for the placenta, it is a grave mistake not to instruct her to stay yet two hours longer after it is expelled.

Uterine Inertia.—In Dr. Van Waters'[7] experience, uterine inertia that has supervened at the time when labour pains should commence, is best met by the introduction of the disinfected hand into the vagina. A little chlorform may be given during the introduction, the results of which are said by Dr. Waters to be greatly superior to those obtained from oxytocics or operative procedures.

REFERENCES.—[1] "Brit. Med. Journ.," Jan. 7, 1893; [2] "Pelzer, Wienner klin. Woch.," March 23, 1893; [3] Stillmark, "Therap. Gaz.," Jan., 1893; [4] Tarnier, "Journ. des Sages-Femmes," Oct. 16, 1892; [5] "Therap. Gaz.," Jan., 1893; [6] "Brit. Med. Journ.," Jan. 21, 1893; [7] Van Waters, "New York Med. Journ.," June 24, 1893.

Synopsis.—(Vol. 1893, p. 341.) For slow dilatation of os and weak contractions, hot vaginal douches of **Carbolized Water** 1 to 15 per cent. may be given, and repeated every two hours; if they fail, **Baths** and **Narcotics** in large doses are indicated. Secondary inertia requires stimulants, **Opiates** and **Chloroform**. For spasmodic pains, **Chloral Hydrate**, gr. 30 to ʒj per rectum; **Morphine**, gr. ¼ to ½ hypodermically, or **Chloroform Inhalations** are also indicated. **Warm Baths** from forty-five minutes duration are very efficacious. Massaging uterus is only useful before passage of head over perineum. Runge condemns the use of **Ergot** during first and second stages of labour, but emphasizes its use during placental period, and highly recommends **Cornutin**.

LACHRYMAL OBSTRUCTION.

Synopsis.—(Vol. 1893, p. 342.) Inject sac with **Cocaine** 2 per cent. to ascertain patency; if patent, a few injections **Zinc Sulphate**, gr. 2 to ʒj, at three or four days' interval, will cure. If non-patent, a probe must be passed after use of cocaine. In chronic cases, if repeated syringing is unsuccessful, and the sac dilated, it will be necessary to open it and dissect out the anterior wall. Slitting canaliculus and probing are rarely necessary in young children.

LARYNGISMUS. (See "Croup.")

LARYNX (Diseases of).

Hysterical Aphonia.—Dr. Bach[1] adopts a method which has given him uniformly successful results in a very short time. Where the inability of whispering is apparent, it takes some preliminary steps

before attempting to produce vocalization. This can be overcome by directing the patient to inhale deeply and blow out again with a puckered mouth, and after this to blow with the tongue pressed against the upper teeth, producing the sound of S. A few minutes' practice in this will enable one to have the patient blow any of the letters, holding the tongue and the upper part of the throat in proper position.

Should the patient try to evade the production of whispered sound in this manner by holding his breath, a sudden pressure upon his chest by the physician, sufficiently hard to expel the air, will at once get him over this fault, and he will thus in a few moments again be able to whisper. The moral effect produced by this procedure is of assistance. We are now ready to go on to vocalization.

The greatest difficulty with the hysterical patient is the production of the first tone, as such patients are generally unable, through their own efforts, to produce any sound whatsoever. This initial difficulty, however, can always be overcome in a few moments by the assistance of reflex action. For this purpose a mild irritant, whether mechanical or chemical, may be applied to the larynx so as to excite cough. When, however, the intralaryngeal anæsthesia is great, it may become necessary to inject some non-irritating fluid—for instance, warm water —into the larynx, which, running into the trachea, will produce cough readily. This, of course, requires no effort on the part of the patient. Having excited this cough once or twice, the patient will be able to reproduce it independent of the irritant. The cough is short and of an explosive character. In connection with this cough it is well to have the patient close his mouth and produce a rasping movement in the throat, as though trying to free it from mucus, while the physician supports the larynx with his hand, exerting some pressure laterally.

After repeating the cough five or six times, the patient will have gained sufficient control of central stimulation to produce a cough. It now becomes a simple matter to continue this cough, and to pronounce, more or less distinctly, the vowel "a" at each effort, and after a few efforts to substitute the vowel "e," and so on until all the vowels have been coughed. After this is repeated several times, the element of cough can easily be eliminated from the vocalization when we have left the pure vowel sound, which, without effort on the part of the patient, can be combined with consonants, as, for instance, with "d"—"ad," "ed," "id," "od," "ud," first placing the vowel before the consonant and then reversing this. It would not be advisable to attempt the articulation of words at this stage, but better combine the vowels with single consonants, gradually increas-

ing the duration of the sound. The patient is thus led to speak words without the power of resistance, either wilful or otherwise. The time occupied in this procedure need not be more than half an hour, although it is advisable to give several treatments, in order to place the patient beyond the possibility of relapse by impressing him with the fact that he produced the sound by his own efforts, and that it is due to a lack of effort if the voice is lost again. Show him how, by coughing if necessary, he can go through the same process as before.

Intubation v. Tracheotomy.—Lovett's [2] experience in the operative treatment of eight hundred and fifty-eight cases of diphtheria inclines him to favour the latter procedure for the following reasons: (1,) The death-rate of intubation was 9 per cent. higher; (2,) Accidents are much more common in intubating; (3,) Tracheotomy affords the best drainage of the septic *débris* from the trachea; (4,) Only a limited amount of nourishment can be taken by the intubated patient.

Bokai [3] would employ intubation in laryngeal croup, and reserve tracheotomy for cases where laryngeal stenosis is accompanied by the same condition of the pharynx; also in case of extensive œdema around the upper opening of the larynx contra-indicating intubation.

Scheier [4] concludes that intubation will prove a useful auxiliary in cases of laryngeal stenosis following diphtheria, but that its special value lies in the treatment of chronic stenosis of the larynx.

Laryngeal Phthisis.—The following powder may be employed in laryngeal phthisis [5]:—

℞ Iodoform gr. lxxv Powdered Phospate of Lime ʒijss	Powdered Boric Acid ʒj Menthol gr. v. M.

Sig.—Morning and night insufflate a sufficient quanity of this powder into the larynx.

Cozzolino [6] uses a spray:—

(1,) ℞ Menthol gr. vijss–gr. xij Balsam Peru gr. lxxv–gr.cl	Spt. Vini rect. ʒiij–ʒss Aquæ dest. Oiijss

Sig.—To be used as a spray.

Or,

(2,) ℞ Pot. Phosphat. ʒijss Iodoformi gr. lxxv	Acid Boric ʒss Menthol gr. vj–gr. xij

Sig.—As an insufflation.

Dr. Garel [7] concludes that the prognosis of this condition must vary according as we have to do with a glottic form or a dysphagic form. In the latter case the patient is doomed to certain and speedy death from inanition. The general condition, the power of resistance and the extent of the pulmonary lesions must be taken into consideration, for the chances of cure depend upon all of these. The different methods

of treatment in vogue are—**Inhalations**, for the relief of cough and dysphagia (the author gives the preference to **Balsam of Peru**); sprays of opiate and phenolized preparations, insufflations of powders. **Sedative Swabbings** are of great service in dysphagic forms. Local applications of **Lactic Acid**, 20 to 80 per cent., with previous **Cocainization**, are the best means of modifying tubercular ulcerations, and the author has seen good effects from intra-laryngeal **Injections of Menthol** or **Creasote.**

Submucous injections of lactic acid or iodoform are very painful; an injection of **Cocaine**, on the other hand, procures greater relief than a simple swabbing. **Galvano-cauterizations** are very well supported by the tubercular larynx, and they ought to be employed in infiltration of the epiglottic and arytenoid regions. The electrolytic method is of service, if it is desired to produce eschars. Injections of tuberculin, or cantharidinate of soda, ought to be proscribed. Sulphur waters may produce congestive attacks. In conclusion, cocaine for cough and dysphagia, lactic acid and the galvano-cautery for ulcerations and infiltrations, is the treatment for laryngeal tuberculosis.

REFERENCES.—[1] Bach, "New York Med. Journ.," Oct. 22, 1892; [2] Lovett, "Med. News," Aug. 27, 1892; [3] Bokai, "Jahrbh. f. Kinderhlkde," xxxv., 1 and 2; [4] Scheier, "Arch. de Laryng.," Nov. and Dec., 1892; [5] "L'Union Médicale," April 9, 1892; [6] "Cond. Extr.," p. 50, July, 1892; [7] "Brit. Jour. of Laryngol," June, 1893.

Synopsis.—(Vol. 1893, pp. 43, 351.) In laryngeal affections the following **Spray** may be used: ℞ Cocaine Phenate, gr. 1½; Menthol, gr. 4; Dilute Alcohol, ʒijss. Sig.—One fifth part to be used in an atomiser during the day. For insufflation into larynx, **Phenate of Cocaine**, 1½ grs., with **Antipyrin**, 45 grs. may be used. **Camphor-Menthol**, 10 per cent. has also proved useful in laryngitis. For pachydermia-laryngis Scheinmann advises use of simple **Salt Solution** daily by inhalation, continued for several weeks; but better results were got from inhalation of 2 to 3 per cent. **Acetic Acid Solution**, used two or three times daily for ten minutes.

LEPROSY.

The conclusions based upon the observations and arguments contained in the report on Indian leprosy are thus summed up by the Commissioners[1]:—

"(1,) Leprosy is a disease *sui generis;* it is not a form of syphilis or tuberculosis, but has striking etiological analogies with the latter.

"(2,) Leprosy is not diffused by hereditary transmission; and for this reason, and the established amount of sterility among lepers, the disease has a natural tendency to die out.

"(3,) Though in a scientific classification of diseases leprosy must

be regarded as contagious and also inoculable; yet the extent to which it is propagated by these means is exceedingly small.

"(4,) Leprosy is not directly originated by the use of any particular article of food, nor by any climatic or telluric conditions, nor by insanitary surroundings; neither does it peculiarly affect any race or caste.

"(5,) Leprosy is indirectly influenced by insanitary surroundings, such as poverty, bad food, or deficient drainage or ventilation; for these, by causing a predisposition, increase the susceptibility of the individual to the disease.

"(6,) Leprosy, in the great majority of cases, originates *de novo*—that is, from a sequence or concurrence of causes and conditions, dealt with in the report, and which are related to each other in ways at present imperfectly known."

In reference to the advisability of compulsory "segregation," for which so many persons in India and elsewhere have been so vociferously clamouring, the Commissioners speak with no uncertain note. In the first place, it is insisted that, for India, complete segregation, may be considered to be absolutely impracticable; and, secondly, that nothing of the kind is justified by the nature of the disease. They do not object to, however, and indeed recommend, a sort of voluntary isolation in leper colonies or farms. The comparatively few children that might be born, they suggest, should, if possible, be removed to orphanages. Quite apart from the idea of infection, the Commission is of opinion that lepers should not engage in the sale of food, or in such occupations as those of barbers and washerwomen.

[These views must, as a matter of course, be the subject of much adverse criticism.—ED.]

Danielssen[2] remarks that tubercular leprosy will temporarily disappear under persistent irritation, such as rubbing with **Carbolic Lotions, Soft Soap, Irritating Oils,** etc., which produce extensive desquamation of the cuticle. Some acute diseases affecting the skin, *e.g.*, erysipelas, scarlatina, have similar results; but the tubercles soon reappear in any case, and then are prone to run a more rapid course than before.

M. Carreau[3] administered **Chlorate of Potash** in heroic doses (150 to 300 grains daily for three days), thereby setting up grave symptoms of poisoning; but the leprous tubercles almost entirely disappeared, leaving the skin soft and wrinkled. This method was suggested by observations on a leper who died from a rattlesnake's bite, the condition of met-hæmoglobinæmia induced by the poison causing a rapid diminution in the tubercles in twenty-four hours.

Goldschmidt's[4] use of **Europhen** in 5 per cent. emulsion, locally applied, has yielded him remarkably good results. He insists on the necessity of strict medical supervision, in order that the inunction may be thoroughly and regularly carried out. In advanced cases, subcutaneous injections of an oily emulsion were also employed without any bad effects.

REFERENCES.—[1] "Brit. Med. Journ.," May 6, 1893; [2] Danielssen, "Archiv. f. Derm. u. Syph. Erganzungsheft;" [3]Carreau, "Centralblatt. für Chirurgie;" [4] Goldschmidt, "Therap. Monat.," April, 1893.

LICHEN.

Synopsis.—(Vol. 1893, p. 354.) Jacquet employed a **Hot Douche** (95° Fahr.) daily for about three minutes, followed by a short **Cold Douche** in a rebellious case of lichen planus, with the best results. Bulkley recommends Boecks' prescription of **Potassium Chlorate**, 10 to 20 grs., taken in a quantity of water directly after each meal, and followed in half an hour by 20 drops of well diluted **Nitric Acid**. Jamieson advises **Tartrate of Antimony**, $\frac{1}{8}$ gr. dose, in cases aggravated by arsenic.

LIVER (Cirrhosis of).

Dr. Dujardin-Beaumetz[1] recognizes three varieties of this disease. The first is little known, and arises from sclerosis of the inner coat of the hepatic artery; the second, arising from the portal vein area (hob-nailed liver), has also a sub-variety, differing in many respects, and which commences in the radicles of the biliary ducts. The third form develops from the lymphatics, is characterized by pseudo-cicatricial bands, and is due to syphilis. Dujardin-Beaumetz uses **Hippurate of Calcium** to combat hepatic congestion:—

℞ Hippuric Acid 25 grammes	Simple Syrup 500 grammes
Lime-water, q.s. to neutralize	Syrup of Lemon q.s.

Mix. 4 to 6 dessertspoonfuls a day.

He deprecates the use of calomel as productive of ptyalism and cachectic conditions. **Copaiba,** in doses of 4 grammes daily, is useful as a diuretic, and purgatives, carefully employed, are beneficial. Hydrotherapy and electricity have failed in his hands. The author's final recommendation is **Iodide of Potassium,** in doses of from 2 to 4 grammes per day, together with a **Milk Diet,** to enhance diuresis and elimination of iodine.

Dr. Paul Palma's[2] experiments with **Calomel** showed that where ascites was present, and cirrhosis not too far advanced, very marked diuresis resulted. In the absence of ascites, diuresis was very slight. He employed 3-grain doses thrice daily, together with the use of a gargle of **Chlorate of Potassium.**

Biliary Lithiasis.[3]—Attention is called to the fact that in biliary lithiasis the usual hepatic colic may be replaced by gastric cramp,

drowsiness, or various neuralgias. The distinction from dyspepsia is by the absence of vomiting, eructations, or collections of mucus. Pain is the leading feature: it comes on about two hours after eating, and has no relation to food taken as regards quantity or quality. Again, the symptoms indicative of lithiasis may be—either headache, an obstinate chlorotic condition, or neurotic phenomena, which may even go on to persistent and profound melancholy.

Congestion of Liver.—Prof. Jonathan Hutchinson[4] gives **Succus Taraxaci**, in large doses, in affections of the liver, usually combining it with **Tincture of Nux Vomica.** In the case of a child, ten years old, he administered 30 to 60 grains, with 5 drops of tincture of nux vomica, three times a day for a considerable period.

Renal Ballottement in Liver Affections.—M. Le Dentu[5] pointed out to the Société de Chirurg. of Paris that the so-called renal ballottement may be met with in some hepatic affections, apart from renal prolapse. Calculi in the gall bladder, induration of this organ, with adhesions, and also inflammation of the hepatic peritoneum, have given rise to this symptom. M. Reclus also mentioned an inflammatory tumour due to perforating appendicitis, in examining which this false renal ballottement was elicited.

REFERENCES.—[1] Dujardin-Beaumetz, "L'Union Med.," "Bull. Gen, de Thérap.," Nov. 15, 1892; [2] "Therap. Monat.," Mar., 1893; [3] "Gaz. Médicale de Montréal," July, 1892; [4] "Archiv. of Surgery" ("Annuaire de Thérapeutique," Mar. 23, 1893); [5] "New York Med. Journ," Mar. 14, 1893; "L'Union Med."

Synopsis.—(Vol. 1893, pp. 21 and 360.) Pfeffer found **Diuretin** act promptly as a diuretic in a daily dose of 75 to 150 grs. Ghëorgïevsky successfully employs **Copaiba Balsam** and **Resin** in daily dose, varying from ½ to 3j, combining the two, as the balsam alone produced gastro-intestinal disturbance.

LIVER (Surgery of). *A. W. Mayo Robson, F.R.C.S.*

Palpation of the liver with the warm flat right hand pressed evenly and firmly on the surface of the abdomen beneath the right costal arch, the patient being then told to take a long breath, gives considerable information, especially if aided by the left hand on the loin pressing the liver forward, but the method suggested by Mr. Alfred Parkin[1] promises to be of even greater assistance. Its use was well shown in a case of Mr. Lane's. It consists in placing the patient with the trunk in a position of very considerable flexion, the weight of its upper part being taken off in order to relax thoroughly the abdominal muscles. The surgeon sits behind the patient and, passing one hand around either side, examines the details of the upper surface, anterior edge and under surface of the liver, together with the gall-bladder, through

the flaccid parietes with a facility that is remarkable to one who has never used the method before.

Hepatic Abscess.—There seems to be a general agreement among surgeons that the treatment for abscess is best conducted by incising and draining freely. In the "Lancet" for July 1, 1893, three cases are reported from the Netley Hospital, which show the great advantage of this method.

Zancarol[2] has undertaken a series of experiments on cats to prove that dysentery and hepatic abscess are closely associated, both being dependent on the streptococcus, which in most instances passes from the intestine to the liver, either by the portal vein or the general circulation. The amœbæ, so often found in dysentery, the author holds play no part either in the causation of dysentery or abscess.

Schmidt[3] reports a case of successful resection of a portion of the liver for gummatous disease. The tumour was pedunculated and was thought to be connected with the transverse colon before being exposed. The elastic ligature was employed, and the pedicle made extraperitoneal.

A curious case is related by Pierre Debet,[4] where, in a child two years old with a large tumour of the liver, an exploratory laparotomy was performed. The surface of the liver was smooth and pale, and the subperitoneal glands were enlarged. The abdomen was closed. From the third day improvement began, and in ten weeks the liver had become normal in size, although no anti-syphilitics had been given. Four months afterwards gummata appeared on the skin, and apparently established the diagnosis of syphilis.

At the German Surgical Congress, Von Bergmann described a case in which he had successfully removed an adenoma of the liver. In the discussion which followed, Bardeleben said that he had removed a sarcoma of the liver two years previously without recurrence up to the present; and Kœnig said that he had recently removed tumours of the liver in several cases. In one he had made a circular incision round the pedicle, lifted up the peritoneum, and then after removing the tumour he had sutured the peritoneum over the base. He preferred this proceeding to plugging with a gauze tampon.

At the recent Surgical Congress in Rome, he showed a case in which he had successfully sutured the liver for a wound of the organ, instead of employing the gauze tampon. In the discussion which followed Montenovesi, Scalzi and Postempski related successful cases, and all agreed that suture was the more desirable method of treatment.

REFERENCES.—[1] "Lancet," Oct. 7, 1893, p. 874 ; [2] "Rev. de Chir," Aug., 1893 ; [3] "Deut. med. Woch.," Nov. 8, 1893 ; [4] "Bulletin de la Société Austerique de Paris," 1893.

LOCOMOTOR ATAXIA. *Græme M. Hammond, M.D., New York.*

Croeg[1] reports several cases of this disease which were greatly improved by hypodermic injections of a solution of **Phosphate of Soda**. He employed a solution of 2 grammes of phosphate of soda in 100 grammes of laurel water. Of this he injected 3 cubic centimètres three times a day. Dr. G. M. Hammond[2] reports a case of ataxia which was wonderfully improved by daily hypodermic injections of 5 minims of **Cerebrine** for a space of five weeks. The pains ceased, the walking improved to such an extent that the patient could get on and off a car while it was in motion, and the sexual powers were restored. The knee-jerk, however, remained absent, and there was slight swaying when an attempt was made to stand with the eyes closed. Four months after all treatment had been discontinued the patient showed no signs of a relapse.

Pantschenko[3] treated fourteen cases with hypodermic injections of **Spermine.** Twelve of these were greatly improved. In the other two no change was observed.

Hansell[4] considers the ocular symptoms very important in the early diagnosis of ataxia. A transient ptosis or esotropia, in the absence of any known cause, may be an indication of incipient tabes. The spinal myosis, the reflex to light lost, while that to accommodation is preserved, whether it is monocular or binocular, would warrant a strong suspicion of incipient tabes. Idiopathic optic-nerve atrophy, non-inflammatory, of unequal degree, often precedes by months or even years the appearance of the spinal symptoms of tabes.

REFERENCES.—[1] Epitome" ; [2] "New York Med. Journ." ; [3] "Amer. Med. Surg. Bull.," Nov., 1893 ; [4] Ibid.

[*Editorial.*

Dr. Hirschberg calls attention to a new method of treatment devised by Dr. Frenkel, of Horn, Switzerland.

The principle of Frenkel's method consists in making the patients perform movements more or less complicated, whilst paying the greatest attention to them. These exercises are at first simple, and then more and more complicated. But—and this is very important—the patient must watch attentively the muscular contractions, and do his best to correct any irregularities caused by the ataxy.

Dr. Frenkel distinguishes broadly three categories of movements : (1,) Simple muscular contractions, *i.e.*, contractions of a single muscle or a physiological group of muscles (flexion, extension, adduction,

abduction, etc.); (2,) Simple co-ordinate movements (reaching for an object at a certain distance, touching the tip of the nose with the index finger, carrying the hand to the mouth, etc.); (3,) Complicated co-ordinated movements (writing, taking hold of objects at varying distances, carrying a spoonful of fluid to the mouth, etc.). On applying this principle to the lower limbs, the movements must be adapted to the motor functions of the legs.

Dr. Hirschberg has treated according to this method a series of ataxic patients in the Cochin Hospital, under the observation of Dr. Dujardin-Beaumetz, and also two private cases. They all improved under treatment. Each "*séance*" should last about half-an-hour (not counting the time for rest between the different exercises) and should on each occasion be concluded by massage.

At first simple exercises are adopted: (1,) The patient, in a reclining position and with his legs naked, flexes, extends, abducts and adducts first one foot, then the other, and then both feet together; (2,) Flexion of the knees in the same order, *i.e.*, first one knee, then the other, and then the two together; (3,) Flexion, extension, abduction and adduction of the thighs in the same order.

Each of these exercises is repeated till the patient is able to control his muscular contractions. After a few "*séances*" the patient performs these exercises with more regularity and precision than at first. One then passes on to more complicated movements, which the patient should perform standing. If the patient cannot walk by himself or can only walk with the aid of a stick, there is great difficulty in overcoming the *fear of falling*. It is here that the physician should exercise his moral influence and prevail upon the patient to regain the confidence in his legs.

Dr. Hirschberg then gives a series of exercises, beginning by the simplest: (1,) Sitting down slowly without the support of a stick; rising from a chair; (2,) The patient is standing and supports himself on his stick; he lifts the left foot and puts it gently down and forward, taking an ordinary step. He then replaces the foot by the side of the other one with the same precautions; the same movement is repeated with the right foot; (3,) Walking ten steps forward, helping himself with the stick, and advancing slowly and firmly; (4,) Standing upright without a stick, with the feet somewhat apart and the hands on the hips. In this position the patient bends the knees, squats and rises slowly; (5,) As in exercise No. 2, the patient advances the left foot, but having replaced it by the side of the other one, it is now carried backward, put down on the ground, and then replaced in position. The same exercise is repeated with the right foot; (6,) To walk twenty

steps as in exercise No. 3; (7,) Exercise No. 2, without a stick; (8,) To stand erect without a stick, the feet together and the hands on the hips; (9,) To stand erect without a stick, the feet separated. In this position the patient should do exercises with his arms, *e.g.*, flexion and extension of the arms upwards, forwards, outwards, downwards; (10,) Standing erect without a stick, the feet separated and the hands on the hips. In this position to bend the trunk forwards—to the left—backwards—to the right, describing a circle with the head; (11,) Exercise No. 9, with the feet together; (12,) Exercise No. 10, with the feet together; (13,) Walking along a straight line with the aid of a stick; (14,) Exercise No. 13, without the stick. Of course, the same exercises cannot be given to all ataxic patients, but those mentioned serve sufficiently to indicate the kind of movements that should be used.

Dr. Hirschberg's conclusions regarding the utility of this treatment are:—

(1,) The movements of the ataxic patients can be notably improved by Frenkel's method.

(2,) They increase and develop the muscular power of the affected limbs.

(3,) By bringing the muscular contractions under the control of the will of the patient, the co-ordinating power over the movements is improved.

(4,) By helping the patient to regain confidence in his legs his mental condition is improved.

(5,) The treatment is indicated in all stages of locomotor ataxy. The best results are, however, obtained when the patient has not completely left off walking.

(6,) Hirschberg considers that the movements are contra-indicated when the disease is progressing very rapidly, *i.e.*, when the symptoms have developed in less than two years; when the general state of the patient is particularly bad, and especially when the joints are affected.

(7,) This treatment exercises no influence on the cardinal symptoms of the disease, except on the ataxic condition of the movements.

REFERENCE.—Hirschberg, "Bull. gén. de Thérap.," Jan. 30, 1893.

LUNGS (Diseases of).

Œdema Pulmonum.—Prof. Nothnagel[1] considers that the first point in œdema pulmonum is to guard against the cessation or feebleness of the heart's action which would indicate stimulantia for our prescription, which can be best provided for in the form of **Black Coffee, Alcohol, Champagne, Brandy,** and **Strong Wines**; another stimulant might

be more rapidly applied in the form of subcutaneous **Camphor** injections :—

℞ Camph. gram. 1·0 | Ol. Oliv. gram. 9·0

Sig.—1 to 4 minim injections, or about 1 to 4 decigrams.

If the morbid conditions have developed slowly and more time is allowed, **Digitalis** in small doses, say ½ gram. divided into 150 portions, may be given. There may be cases appear in which this treatment has little effect on the heart's action, especially in nephritic cases where the arteries are widely distended ; camphor would be unsuited in such cases, as the pulse is already found to be strong, and other therapeutics must be sought for. Foremost amongst these would be the application of a large vesicant, not less than a book-leaf, quarto size (a small one has no effect), applied over the chest until large vesicles are formed. Internally **Acetate of Lead** may be given with advantage, as this will produce a contraction in the vessels, but it must be carefully administered :—

℞ Plumb. Acetate gram. 0·05 | Sacchari gram. 1·0

M. Sig.—Fiat. pulver. Dentur tales doses decem.

One of these powders might be given every hour, or four of them in rapid succession every half-hour. Blood-letting may be resorted to, but this is not to be be accepted in a general course of treatment, as bleeding is to be always received as a double-edged sword.

Asepsis.—Delthil[2] makes use of the following inhalation for the purpose of rendering the respiratory passages aseptic :—

℞ Ess. Turpentine	grms. 350	Iodoform	grms. 10
Ess. Lavender	grms. 100	Sulphuric Ether	grms. 20

Syphilis v. Tuberculosis.—In the differential diagnosis of pulmonary syphilis and tuberculosis the following considerations are to be borne in mind : (1,) The anatomic localization of the lesions in the lungs, tuberculosis being usually situated at the apices, syphilis in the lower lobes ; (2) The microscopic examination of the sputum, the tubercle bacillus being absent in cases of syphilis ; (3,) The history of the patient, personal and family ; and (4,) The results of anti-syphilitic treatment.[3]

Auscultation.—Dr. Andrew Smith[4] has recently employed a form of auscultatory percussion which will sometimes aid in detecting shades of differential dullness not easily determined by ordinary methods.

In carrying it out the binaural stethoscope is fitted with the small extremity intended for examining the heart, but this, instead of being applied to the chest, is held between the patient's teeth, and the lips

are closed around it. During the percussion the nostrils are compressed with the fingers.

It will be seen that in this method there is a confined column of air reaching uninterruptedly from the interior of the patient's lung to the drum-membrane of the examiner's ear. Impulses communicated to this column are completely shut in, and none of the sound-waves are lost. The length of the sound-waves will be in proportion to the elasticity of solid structures acted upon by the percussing finger. If there is no solid tissue beneath to dampen the vibrations of the chest-wall, the waves will be long, the pitch low, and the tone resonant. If, on the other hand, the vibrations are muffled by deposit in the lung, the waves will be short, the pitch high, and the tone flat and woody.

The effect does not differ in kind from that obtained in ordinary percussion, but its intensity is much greater.

In examining the back of the chest a stethoscope with unusually long tubes is necessary, or in the absence of this the percussion may be made by an assistant.

Koenig[5] has noticed frequently a marked dullness at the apices of the lung unaccompanied by auscultatory signs, in cases which later at autopsy presented nothing abnormal in the lung. This occurs nearly always in persons suffering from some exhausting disease, and is often so marked as to be very misleading. As it often happens that in incipient phthisis dulness on percussion is the only suspicious physical sign, it must be borne in mind that a diagnosis should not be made from this alone without careful study. The explanation, the author believes, is to be found in the incomplete filling of the apices of the lungs with air, and occurs especially in patients who have lain in bed for some time. Such patients are, however, not the only ones in which he has noticed this condition, but except in such patients he has seen it only in women and among hospital patients. Cases are given in which it occurred in connection with typhoid fever and influenza.

REFERENCES.—[1]"Med. Press and Circ.," Nov. 2, 1892; [2]Delthil. "Semaine Méd.," Sept. 7. 1892; [3]Chomationas, "Amer. Journ. of Med. Sciences"; [4]Smith, "Med. Record," June 24, 1893; [5]"Med. Record," Jan. 20, 1893; "Boston Med. and Surg. Journ."

LUPUS ERYTHEMATOSUS. *T. Colcott Fox, M.B.*

Several observers have been trying Bulkley's treatment by the internal administration of **Phosphorus** (see "Med. Annual," 1893), with so far rather favourable results.

G. H. Fox says **Thilanin,** recommended by Saalfeld, seems to deserve a more extended trial.

Gamberini and Monari recommended scraping and subsequent painting with the following:—

℞ Dried Ethylate of Sodium, 10 grammes
Spirit of Soap, 35 grammes
Spirit of Lavender, 5 grammes
M.

To be mixed with equal parts of water in which to soak compresses.

Synopsis.—(Vol. 1893, p. 388.) Bulkley speaks favourably of **Phosphorus**, administered in Ashburton Thompson's formula.

LUPUS OF THE EYE. (See "Eye.")

LUPUS VULGARIS. *T. Colcott Fox, M.B.*

Professor H. Leloir of Lille in his important treatise on scrofulo-tuberculosis of the skin and adjacent mucous membranes, gives in detail the treatment he carries out.

We quote from a convenient summary by Brocq: There is no internal treatment which acts in a specific manner upon the lupus elements, but an endeavour should be made to favourably modify the culture medium. For this purpose he gives **Cod-liver Oil** in large doses, and occasionally combines it with equal parts of antiscorbutic syrup, or with equal parts of syrup of bitter orange, and a fourth part of rum. He also prescribes **Arsenic,** generally in combination with **Iodide** and **Chloride of Sodium,** as in the two following formulæ:—

℞ Iodide of Sodium, 5 grammes
Chloride of Sodium, 25 ,,
Pearson's Solution, gtt. 100
Glycerine
Syrup of Orange Peel (or Cinchona or Gentian) āā 150 grammes

℞ Iodide of Sodium, 4 grammes
Chloride of Sodium, 10 ,,
Fowler's Solution, gtt. 60
Antiscorbutic Syrup
Glycerine, āā 100 grammes

Sig.—2 to 10 teaspoonfuls daily, after meals.

Where much anæmia exists he adds iron. In some cases subcutaneous injections of iodoform oil are useful, when given for ten days with a break of ten to fifteen days between each series of injections. Creasote is indicated where pulmonary complications threaten. Sulphur waters are also sometimes beneficial.

His *local treatment* is a mixed method. If the lupus is not ulcerated, he applies a strong salicylic acid paste as indicated in the following formulæ:—

℞ White Wax
Resin Dammar (white) āā 30 parts

Melt the mass, and add when half-cooled:—

Salicylic Acid, 20 parts
Beechwood Creasote, 40 parts

℞ Diachylon Plaster
White Oil, āā 20 parts
Powder. Salicyl. Acid, 3 parts
Resorcin
Beechwood Creasote, āā 2 parts

Dissolve the salicylic acid and resorcin in the oil; add the mixture to the plaster melted and nearly cold; finally incorporate the creasote, and pour out at once through a cere cloth strainer.

If the lupus be ulcerated the surface is thoroughly cleansed by poultices, sprays, or antiseptic lotions, and after the local subcutaneous injection of cocaine, or better still chloroform narcosis, all lupus tissue possible is removed by a strong curette, the hæmorrhage being stopped by tampons of antiseptic absorbent cotton. Vascular and fungating portions may be cauterized with the thermo-cautery. A detailed curetting should follow with a smaller instrument.

These proceedings suffice in superficial cases, but where the infiltration is deeper he proceeds to further cauterize the surface very circumspectly with **Iodhydrargyrate of Potash Ointment,** or better **Lactic Acid.** Little masses of cotton are soaked with a mixture of 4 parts of lactic acid and 6 of glycerine, and applied to the desired points for two to seven hours daily for one to three days, according to circumstances, and in the interval the wound is dressed with absorbent cotton soaked in camphorated naphthol, or with a mixture of 1 part of resorcin and 2 of camphor. Cauterization may be carried out also by deliquescent chloride of zinc, or by 10—20 per cent, salicylic acid ointment. When all the lupus tissue is removed mechanically, or destroyed by subsequent cauterization, he sprays the wound for a quarter of a hour with bichloride of mercury solution, or, if this is badly borne, by strong boric acid solution, and the surface is cleansed vith cotton wetted with the same, macerated epidermis is removed, the periphery carefully disinfected, and finally the wound brushed over with iodoformized ether. This proceeding in its entirety is carried out before each dressing. Where cauterization has been made the dressing used for a few days, till suppuration has ended, is cotton tampons wetted with camphorated naphthol or resorcin applied twice daily. Any remaining lupus buds are then destroyed by nitrate of silver stick, chloride of zinc or the thermo-cautery. The wound is subsequently dressed according to circumstances with iodoform covered with plaster of Vigo, with mercury, or Unna's mercurial plaster (phenicated or not), or Vidal's red plaster, calomel pomade, or 25—50 per cent. ichthyol salve, etc. Vicious cicatrization may be improved by scarification, vigo plaster, massage and electrolysis. The scar should be covered for a long time with vigo plaster at night, and by bichloride ointment in the day (1—2 per 1000).

Isolated nodules enshrined in sclerous tissue are destroyed by thermo-cautery and then dressed with potato flour cataplasm prepared with bichloride of mercury, or mild bichloride ointment or iodoform

covered with one of the plasters already mentioned. Lupus of the extremities is, after scraping, dressed with compresses of unprepared cheese cloth wetted with 1 in 1000 bichloride solution or ointment. Sclerous lupus should be first treated with the thermo-cautery round the periphery, and then the whole scraped.

In deep infiltration about the natural orifices of the face, or about the hands and feet, it is necessary to act with great circumspection and not remove too much at a time, but proceed little by little in several *séances*, closely watching the results.

A most excellent little book on tuberculosis of the skin has lately been written by Du Castel of the Hôpital, St. Louis.

Stafford Taylor systematically and slowly destroys the outer edges of lupus growth by a needle-pointed cautery at red heat, and then destroys general surface by repeated stroking with a flat button cautery at white heat until the whole surface is brown and leathery. He dresses the wound with carbolized oil.

Liddell of Harrogate, recommends, where salicylic acid plaster muslins have failed, **Carbolic Acid** in the form of an ointment or preferably a plaster (1 in 15 or 20) used continuously. The nodules pustulate and shell out, but the application may be continued a few days longer.

Chotzen obtained benefit in the treatment of two cases with 20 per cent. **Alumnol Plaster** and consecutive powdering with pure alumnol (sulpho-naphtholate of aluminium).

Robinson of New York, showed a case of extensive lupus of the face and scalp to demonstrate the striking improvement apparently due to the following dietary. Believing that the protoplasm of the human being partakes of the peculiar molecular constitution of the substances upon which it feeds, he restricts the diet in cases of tuberculosis to the flesh and milk of animals not liable to the disease, *e.g.*, goat's milk, fish, including cod-liver oil, and oysters. Any kind of starch was also allowed.

With regard to treatment by injections, Landerer recommends **Cinnamylic Acid.** At a sitting one can make up to ten injections of 1 or 2 drops of the following solution :—

℞ Acid Cinnamylic
Cocaine Hydrochloratis, āā
1 gramme | Sp. Vin. rectif. 18 grammes

Chont saturates compresses with a 5 per cent. iodoform solution in cod-liver oil, and maintains them in position.

The free excision of extensive lupus patches with subsequent grafting by Thiersch's method continues to be practised, and excellent results may be obtained by it.

In last year's review the action of **Thiosinamine,** recommended by Hans Hebra, was inadvertently omitted. A 15 per cent. alcoholic solution is hypodermically injected by preference into the back. It gives a local reaction without constitutional disturbance. There is no question that it has considerable action, but the favourable results do not seem to be very marked.

REFERENCES.—Laloir, "Treatise on scrofulo-tuberculosis of the skin"; Du Castel, "Tuberculoses cutanées"; Stafford Taylor, "Brit. Med. Assoc.," 1893; Liddell, "Brit. Med. Journ.," May, 1893; Robinson, "Journ. Cut. and Gen-Urin. Dis.," Jan., 1893; Chotzen, "Berliner, klin. Woch.," 1892, p. 1219; Chont, "Rev. Mèd. de l'Est," Jan. 1, 1893; Bruce Clarke, "Lancet," March 18, 1893 (excision); Bidwell, Idem. and "Brit. Med. Assoc." (excision); Urban, "Deutsche, Zeitschr. f. Chir.," 1892, Bd. xxxvi, p. 187 (excision); Hans Hebra, "Brit. Journ. Derm.," Oct., 1892, and "Crocker's Treatise," 2nd Ed.

Synopsis.—(Vol. 1893, p. 389.) Fox uses chiefly the **Curette** and **Dentists' Burr,** and for ulcerating nasal lupus the **Scarifier,** while he thinks **Pyrogallol** the best local application. After curetting, pyrogallol ointment (25–50%) is applied until a slough separates, and then **Mercurial Plaster** is used for some weeks. Unna uses **Massage.** Liebrich's **Cantharidinate of Potassium** undoubtedly acts on lupus. Lannelongue's sclerogenic method by **Zinc Chloride Injections** has been tried. Robertson injected 5 or 6 minims **Corrosive Sublimate,** 1%. Brook rubs in the following:—℞ Zinc. Ox., Amyli Pulv., āā ʒ¼; Vaselini Alb., ʒ½; Hydrarg. Oleat. (5%), ʒj; Ac. Salicyl., 20 grs. vel q.s.; Ichthyolis, ♏20 vel q.s.; Ol. Lavandulæ, q.s. M. ft. Ung. Unna cauterizes with **Carbolic Acid.** Bonaudrini advocates the use of **Chrysarobin** before employing cauteries, as it tends to convert the soft masses into more normal tissues. Harrison generates nascent sulphur and sulphuric acid deep down in diseased structures by applying **Hyposulphite of Sodium Lotion** (40 grs. to water ʒj) on lint covered by gutta-percha tissue at night, and in the day-time a **Hydrochloric Acid Lotion** (♏5 to ʒj). **Total Excision** has given good results, and **Thiersch's Grafts** may be used to heal the wounds.

MALARIA. *Henry Dwight Chapin, M.D., New York.*

Dr. Ferreira[1] claims excellent results from **Methylene Blue.**

The drug is of great service, especially in obstinate and prolonged cases which have resisted the action of other medicaments. Its employment is likewise of benefit in young children suffering from the intermittent or remittent forms of the disease, unaccompanied by phenomena so serious as to place in immediate danger the life of the little patient. It may be added here that in those pernicious types of malaria which do not yield even to large doses of quinine, it is not wise to resort to the exclusive use of methylene blue; but to the administration of the latter drug may be associated the occasional injections of the **Bichlorhydrate of Quinine,** when the action becomes much more energetic and prompt.

It is perfectly well borne by children ; it produces in them neither vomiting nor diarrhœa, and the little patients take it easily, which is an advantage over quinine.

Methylene blue exercises a decided action on the malarial germs and on the paludal process of infection, proved by the fact that the characteristic bodies in the blood disappear, together with the phenomena of increased volume of liver and spleen. It is a feeble antithermic and of no value in hyperthermias.

The drug may be administered to children of all ages, without inconvenience, in varying doses, and according especially to the degree of obstinacy and resistance of the infection. Its use must be continued for a few days after the disappearance of the fever and all other symptoms, in order to avoid relapses so common in the intermittent fever of children.

Dr. Huddleston[2] has employed methylene blue in the malaria of children, 1 capsule containing a decigram being given every three, four, and five hours.

Dr. Moncorvo[3] has employed **Helianthus Annuus** in the malaria of children. The tincture of helianthus was given in daily quantities of 10 grammes, in divided doses, with an interval of two hours between each dose. The alcoholic extract was administered in daily doses of from 1 to 6 grammes. The author considers it an excellent substitute for the cinchona alkaloid. He has also employed methylene blue in doses of from 20 to 40 centigrammes, in divided amounts, every two hours. The urine and fæces were always coloured blue, but its tasteless quality makes it often preferable to quinine.

REFERENCES.— "[1]Bull. Gén. Thérap.," June 15, 1893 ; [2]"Med. Record," 1892, xlii ; [3]" La Nouv. Remèdes," Jan. 8, 1893.

[*Editorial.*

Dall'Olio[1] finds that, although not a potent antipyretic, **Phenocol** is as effective as quinine in the treatment of malaria, and does not give rise to unpleasant toxic effects ; also that it succeeds in a certain number of cases in which quinine absolutely fails. Phenocol is comparatively tasteless, and is well taken by children in a little syrup.

Dr. Buro[2] reports excellent results from the use of **Sodium Nitrate** and **Potassium Nitrate** in intermittents, whether quotidian, tertian, or quartan. The sodium salt is to be preferred, because it is less toxic and more soluble. The ordinary hypodermic dose is from 15 to 20 grains, given at the onset of a paroxysm or in an intermission.

Dr. H. Villard[3] considers that **Cinchonidine Sulphate** overcomes attacks of intermittent fever quite as surely as the salts of quinine, and in the same doses ; in addition, it exerts a very favourable action

upon the anæmia and visceral engorgements of paludism. The attack yields to it a little less rapidly than to quinine. He has usually employed cinchonidine in 15-grain doses, but thinks there is no objection to giving from 18 to 22 grains. The unpleasant effects of cinchonidine are less pronounced and less frequent than those of quinine.

REFERENCES.—[1] Dall'Olio, "Gazz. degli Ospitali," Jan. 14, 1893; [2] "New York Med. Jour.," Mar. 4, 1893; [3] "Nouveau Montpellier Med.," Mar. 1, 1893.

MANIACAL EXCITEMENT. *Græme M. Hammond, M.D., New York.*

Dr. F. Peterson[1] recommends the **Hot Wet Pack** in cases of maniacal excitement. In this condition it is important to control motor excitement as much as possible, in order to prevent metabolic waste that progresses only too rapidly in many cases, often leading to death in a few days. It is astonishing to note the good effects of the hot wet pack, **Hyperalimentation**, and occasional doses of **Hyoscyamine** or **Duboisine,** if needed. The patient is wrapped in a sheet which has been dipped in hot water and then wrung dry. One or two blankets are then wrapped closely around him, and he is allowed to remain in the pack an hour or longer, and even all night if he is asleep.

REFERENCE.—[1] "American Lancet."

MASTITIS.

Synopsis.—(Vol. 1893, p. 392.) Boekel recommends **Excision** by elliptical incisions, breaking down partitions, washing out with **Chloride of Zinc Solution 5%**, then with **Corrosive Sublimate 1%**; drying with **Iodoform Gauze,** and stitching the cavity from the bottom, using antiseptic bandages, but no drainage.

MESENTERY (Surgery of). *A. W. Mayo Robson, F.R.C.S.*

Cysts of Mesentery.—Jules Braquetraye[1] divides these cysts into five classes :—

(1,) Sanguineous due to traumatism, the contents being pure blood, or later, serous fluid.

(2,) Lymphatic cysts including chylous and some form of serous cysts, these being due to changes in the lymphatic ducts or glands, and sometimes occurring from traumatism.

(3,) Hydatid cysts, generally small and usually associated with similar cysts in the liver.

(4,) Congenital or dermoid cysts.

(5,) Cysts of various organs which have developed secondarily in the mesentery.

Three signs are given as characteristic of mesenteric cysts : (*a*,)

Free mobility ; (*b*,) A resonant zone between the abdominal wall and tumour ; (*c*,) A resonant zone above the pubes.

Incision and drainage is recommended and undoubtedly gives the best results.

REFERENCE.—[1] "Arch. Gen. de Med.," Nov., 1892.

METRORRHAGIA AND MENORRHAGIA.

Dr. Davis[1] suggests that the good results obtained by the intelligent use of the **Vaginal Tampon** are due, most likely, to a removal of venous obstruction by a replacement and maintenance of the organ more nearly in its proper sphere, thereby permitting freedom of the return current, rather than that the tampon stanches the hæmorrhage by limiting the amount of blood-flow to the womb, by pressure upon the pelvic circulation, as advanced by some, or to "toning" the uterus, as advanced by others.

In nearly all cases of simple metrorrhagias, if there is no other displacement of the uterus, we shall find a degree of prolapsus. These simple hæmorrhages, in the majority of cases, come on about the time of the menstrual nisus. At these times the pelvic viscera are semi-congested, or engorged, to which physiological condition is added, by the displacement, venous obstruction—hence a true hæmorrhage in a greater or less degree—a flow of blood that clots, in lieu of the menstrual discharge proper, which we know, when normal, never clots.

This does not limit the usefulness of the modern tampon in uterine hæmorrhages. In hæmorrhage from other causes it will serve as a useful adjunct—not that it would control a hæmorrhage induced by a fibroid or polypus, a carcinomatous growth, or ulcerations due to any cause, but in that it will relieve venous obstruction, which is very liable to exist as an accompanying condition on account of prolapsus due to an increased weight of the organ under such embarrassments.

Dr. Lusk[2] remarks on the profound anæmia and hopeless invalidism of patients who suffer from obstinate menorrhagia. Curettage, uterine drainage, and internal remedies having failed in turn, the question of ovariotomy comes up for consideration. As an alternative to this measure, Dr. Lusk resorted to the repression of the profuse flow by means of the tampon, and found not only that absolutely no harm followed, but that removal of the anæmia and restoration of the muscular tone of the uterus were eventually brought about. He adopts Dr. Marion Sims' plan of using cotton wads soaked in carbolised water, compressed into flat discs, and applied firmly to the vaginal vault by means of a Sims' speculum. The flattened surface of the discs is placed transversely to the vaginal axis, and the packing

is stopped when the urethro-vaginal septum is reached. In twenty-four hours the tampon is removed, the vagina is irrigated, and a fresh tampon is applied, and it is rarely necessary to repeat this procedure a third time during a menstrual period.

REFERENCES.—[1]Davis, "Med. Record," Feb. 18, 1893; [2]Lusk, "Amer. Journ. of Med. Sci.," Jan., 1893.

MIGRAINE.

For migraine, the following formula[1] is useful :—

℞ Butyl-chloral Hydratis	gr. xv	Glycerini	ʒiv
Tincturæ Gelsemii	♏xxx	Aquæ ad	ʒiij
Tincturæ Cannabis Indicæ	♏xv		

Mice et fiat mistura. Sig.—A third part at once; to be repeated in half an hour.

Hare[2] advises :—

℞ Ext. Cannabis Ind.	gr. ⅛	Ferri Redact.	gr. j
Acid. Arseniosi	gr. 1/60		

Fiat pil No. j. Sig.—1 pill three times a day. The dose may be increased to 2 or even 3 pills three times a day.

Or :—

℞ Ext. Cannabis Ind.	gr. ⅛	Ferri Lactat.	gr. ij
Pulv. Digitalis	gr. ½		

Fiat pil No. j. Sig.—Take 1 pill three times a day, after meals.

Or (where there is a hyperæmic condition of the brain) :—

℞ Ext. Cannabis Ind.	gr. ⅛	Ergotini	gr. j
Ext. Nuc. Vom.	gr. ¼		

Fiat pil No. j. Sig.—1 pill three times a day, after meals.

Massage of the abdomen, with or without general massage, is recommended by Eccles[3] in megrim, which he finds always attended with faulty digestion and mal-assimilation.

REFERENCES.—[1] "Practitioner," April, 1893; [2] "Hare's System of Therapeutics;" [3] "Medical Record," May 13, 1893.

Synopsis.—(Vol. 1893, p. 393.) For the attack Suckling advises confinement to bed in a dark room, and the use of a mixture containing 10 grs. each of **Antipyrin** and **Ammonium Bromide**, and ♏20 **Sal Volatile** every hour if required. In intervals a pill containing **Indian Hemp**, ⅛ gr.; **Zinc Phosphide**, 1/60 gr.; and **Arsenic**, 1/60 gr., is used twice daily. Peake advises use of 20 or 30 grs. of **Guarana** in a little broth to ward off the attack.

MORPHINOMANIA. *Oscar Jennings, M.D., M.R.C.S., Paris.*

Several new publications have appeared during the last eighteen months on this subject, but the authors not only differ with respect to therapeutic details, but also as regards the great lines and indications of treatment. There is very little that is new to be recorded, but

in default of actual novelty, it may be of some practical interest to summarise the question of treatment.

A few words by way of preliminary on the peculiar mental condition of morphia-habitués, will also serve to explain the discrepancies of many cases of cure reported no doubt in perfect good faith, but by practitioners who obviously are but little experienced in a most difficult and peculiar speciality.

The *immediate* suppression plan has found a new advocate in the writer of a Paris inaugural thesis, but the cases quoted in support, are by no means conclusive, being taken mostly at second hand, and wanting moreover of sufficient control.

It must always be remembered, when dealing with a morphia case, that there exists a peculiar psychological condition, similar to what obtains in hysteria, which impels the patient under treatment to deceive the medical attendant. This occurs even when it has been agreed not only that there shall be no compulsory decrease, but also that any supplementary dose that may be asked for shall be given, the only condition being that the dose shall not be taken unknown to the medical attendant. So constant is this impulse to deceive that in three cases out of four the patient will take a secret extra dose whenever the treatment becomes irksome, rather than comply with the agreement to ask for it. He has of course the full intention of resuming the arranged progression the next day, and even of confessing his backsliding, if necessary, although past experience should have taught him how impossible is the cure as long as it remains even partly in his own hands. As a matter of fact, however, the admission is never made. Each day's deceit makes it more difficult to own the truth, and whilst an apparently most successful progressive reduction is witnessed, an inversely progressive increase is taken surreptitiously. When at length the physician is thanked and complimented on his cure, the patient is probably taking as much as at the commencement. And all these false thanks and compliments, loss of time, expenditure of money, and subjection to visits, on the part of a man who has only to say that he finds the treatment too irksome, to put an end to it.

The word of a morphia-habitué goes for nothing. There are two ways only of ascertaining the truth: (1,) Analysis of the urine which will reveal morphia, providing that the dose taken amounts to 2 grains or more daily; (2,) Uninterrupted surveillance for a period longer than the intervals of administration, when the whole attitude and bearing will testify to the craving or otherwise. The state of the pupils proves nothing, as the patient generally knows as much about

alkaloids as his attendant, and will use atropine if necessary to procure the characteristic dilatation. Even the sphygmograph, which shows clearly the depressed pulse of morphia-hunger, may be made to register a recovered beat during the few seconds necessary for the examination, thanks to a few forced respiratory movements.

I have dwelt upon this question of simulation, because convinced that it is the explanation of many of the strange cases published in the medical periodicals. In our own practice, with the most efficient supervision, not one case out of four has seemed to present sufficient certitude for publication; and from what we have seen of patients previously treated by others, the desired end has nearly always been defeated by misplaced confidence.

To return to the methods of treatment. Another plan which has its chief partisans in Erlenmeyer and Mattison, the latter supplementing it by a special **Bromide** treatment, is the *rapid* reduction method. The suppression takes a week or twelve days. Erlenmeyer has a special asylum; but in our experience patients under this kind of restraint, are prompted to deceive from a spirit of opposition, and nearly always manage to succeed in doing so. It may be possible to find one or two perfectly reliable individuals to act as companions in a private case, but where there is a large *personnel* indifferently paid, someone is sure to succumb to the temptations offered. I have known a patient give £2 a day for some time for the desired dose, and I am quite convinced that many of moderate means would offer £5, or £10 at an irksome moment.

Dr. Mattison (of Brooklyn) allows his patients full liberty on *parole*. Of recent writers recommending sequestration, Dr. Chambard's[1] interesting volume, (although we do not agree with his views) is to be commended. Larger works have been written on the subject, but nothing equal to this either from a literary or philosophical point of view.

The third plan is that of *gradual* progression adopted generally in France. The time required varies between one and three months, according to the amount of the dose and the duration of the addiction.

It has been said by many theoretical objectors that a certain amount of suffering having to be gone through it is only putting off the evil day to make the treatment so extended. It is true that the first doses suppressed may be large under any plan, and this has led to the belief that the progression should be continued at the same rate. The fact is, however, that a patient who commences treatment seldom starts from the quantity which has been termed the *ration d'entretien*, *i.e.*, the minimum quantity necessary to prevent discomfort. He is always

taking a supplementary *ration de luxe*. Thus, a person taking 12 grains may be cut down to 10 or 8 at once, the latter representing the *ration d'entretien*, but it stands to reason that if the organism has come to depend for the accomplishment of its functions on this secondary vital force, which is represented by 8 grains of morphia, there must be infinitely more suffering in suppressing these altogether than in making the final suppression at $\frac{1}{3}$ or $\frac{1}{4}$ of a grain, to which the reduction can be carried without any great discomfort. By the plan recommended below, nothing that can be called suffering is felt, and sufficient restlessness to interfere with ordinary occupations only occurs during the last four or five days. The length of time occupied by the treatment also is not a drawback, as it allows of a re-education of the lost will.

Of those who within the last year or so have adopted the slow reduction, Dr. Guimbail, the author of a book on the subject, must be mentioned. The special feature of his method is the substitution, for the decreasing morphia, of **Codeine**, which is afterwards set gradually aside in its turn.

TREATMENT.—The method published originally in the names of my late eminent teacher Professor Ball and myself, consisted of the gradual reduction of the morphia together with the administration of heart tonics, as soon as the sphygmograph showed their necessity. The agent chosen was **Sparteine**, on account of the facility of injecting it hypodermically, and so demonstrating to a class the immediate recovery of the pulse. In his subsequent lectures on the subject, Professor Ball gave a table of graduations, the progressive increase of sparteine coinciding with the decrease of the morphine. My own plan is different. In the first place I have never given doses of sparteine in any degree approaching those of the table alluded to. Moreover, considering that in *treatment* hypodermic remedies should be avoided as much as possible, I give the heart tonic by the mouth, and much prefer **Digitalis**.

To take then a patient injecting say 20 grains of morphia a day. By way of preliminary the patient gives up syringe and solution and consents to any search that may be necessary that nothing of the kind is secreted. He has agreed to submit himself to constant supervision, and as regards morphia he has the assurance that there shall be no compulsory reduction. In case of exceptional suffering, an extra amount will be given. For if on the one hand it is essential that there should be constant surveillance to guard the patient against giving way to an unfortunate impulse, on the other hand he should be made to understand that it is by his own free will that he carries out the

programme from day to day and makes his progressive decrease. For the first few days he would reduce by a grain daily, having perhaps begun by an initial drop of from 3 to 5 grains. As soon as a grain becomes irksome half a grain, later on a third, a fourth, and finally a sixth would be a sufficient reduction. Tinct. of digitalis in small doses (mv *bis vel ter. die*) should be given as soon as the heart becomes sluggish, and continued as required. Very frequently there is some little difficulty in proceeding further, at about 4 grains, but by allowing a break in the progression of a day or two, with perhaps even a fraction of a grain extra during this time a rest is obtained, and the treatment resumed smoothly. *At about 2 grains* almost invariably comes the first real difficulty, and if there were no way of turning it very few patients would get below this figure. As a matter of fact, however, henceforth the hypodermic suppression proceeds uninterruptedly. Henceforth for every sixth of a grain suppressed hypodermically, twice the amount must be given by the mouth or rectum. This may seem like a retrograde movement, inasmuch as in the course of the next twelve days the quantity of morphia will be doubled, but in reality the great matter is the giving up of the syringe, *and this is always effected without the slightest difficulty.* Whatever little miseries may occur, later or earlier the patient never feels so satisfactory an effect from his ration as at this time. Once the hypodermic injections are set aside, the supplementary doses are gradually reduced to zero, and if the progression is properly carried out, the cure may be successfully accomplished with but a night or two of restlessness, or requiring hypnotics.

In the course of the treatment there may be occasional restlessness, which is intensified during the last few days, but there need be nothing like suffering if a sufficiently slow progression is adopted. Indeed, many cases have been communicated to me where the cure has been operated unknown to the patient. The necessity of a heart tonic has been alluded to. It forms part of the routine treatment. Beyond this, it is better to forestall rather than to remedy. The necessity for taking drugs generally arises out of a hitch of some sort, such as a bad abscess, an attack of indigestion, etc., and it should be the constant aim of the practitioner to prevent such occurrences. Supposing, however, that from some abnormal sensitiveness, or from the obligation of proceeding somewhat rapidly with the reduction, relief is really required, **Coca, Kola, Valerianate of Ammonia** will be found useful in restlessness; the **Bromides** also. For insomnia, what succeeds in one case will fail in the next; but this condition should be borne with as far as possible, reading in bed being forbidden, the patient composing

himself for sleep as soon as the last dose of morphia is taken. The best reason for abstaining from narcotics is also that when taken earlier in the treatment, without absolute necessity, there remains nothing available for the last few nights, when their effect might have been most desirable.

Hyoscine in $\frac{1}{100}$ grain doses often procures twelve hours sleep, but the general condition is depressed on the following day. **Sulphonal** is excellent in some cases. The best hypnotic of all, however, is probably **Hydrate of Amylene,** in doses of from 20 to 30 drops by the bowel. As sedatives, the **Hot Air Bath, Weak Cerebral Galvanization, Muscular Faradization,** have also their indications. I must not forget to mention **Chloroform Water,** which is both a sedative and an analgesic where there is abdominal pain.

With reference to dietetics, Dr. Haig has pointed out (as I hinted seven years ago) that the condition of the organization, as regards acidity, is one of the factors of the morphia-craving. This accounts for the immediately soothing effect of **Bicarbonate of Soda,** where the craving has been intensified by imprudence at table. It also explains why a milk and farinaceous diet is useful towards the end in some cases.

It is a great achievement to have given up the morphia, but the chief point is to guard against a relapse, which is the more to be feared inasmuch as every physical trouble that supervenes makes itself felt, if not as a positive craving for morphia, at any rate as a *malaise* instantly relievable by morphia. For some months the patient may feel listless, desirous of exercise, yet unable to make the effort. Sleep may be disturbed and digestion laborious. The remembrance of the effect of the syringe becomes more attractive as the *ennui* of the cure is forgotten, and finally after an imprudent meal, perhaps a banquet to celebrate the patient's recovery, the resolution is made to *take only one injection*, with the determination to avoid carefully in the future any such danger. The injection however becomes two or three, and the next day the desire is still greater. Such is in *nine cases out of ten* the cause of the relapse.

During this period, the discomforts of which are probably caused by the overcharging of the system with uric acid, a consequence of the functional depression resulting from the suppression of what has been an almost vital stimulant, everything should be done to diminish the formation of acid, and to promote its excretion. Moderate **Turkish Baths,** and **Rational Cycling,** in preference to every other exercise, are of the very first importance. Great attention should be paid to diet, which should be anti-acid and non-alcoholic. If, notwithstanding,

symptoms of gastric embarrassment occur, **Fairchild's Pepsine,** or bicarbonate of soda, should be given according to indications. By following these suggestions, any patient not organically diseased can be cured of the morphia habit and remain so. During the treatment it requires patience, and a little self-denial and discipline subsequently.

REFERENCE.—"Les Morphinomanes," Paris, 1893.

[*Editorial.*

The following is the treatment recommended by Obersteiner[1]: Beginning with the average daily dose, he withdraws it as rapidly as the patient can stand it. When the dose has been reduced to a few centigrammes, caution is necessary, as even a slight reduction is then badly borne. At this stage, warm baths of from five to fifteen minutes' duration, followed if necessary by the cold shower or cold pack for one half-hour to two hours at a temperature of 77° to 86° F., are often of benefit. Alcohol in liberal quantities often gives relief.

Notwithstanding the dangers of **Cocaine,** Obersteiner has found it of very material advantage, when properly administered, in relieving the distress of abstinence from morphia. His method of using the drug is as follows :—

(1,) Recourse should be had to cocaine only when the symptoms of abstinence begin to be very severe, usually about twenty-four to forty-eight hours after the last dose of morphia.

(2,) Cocaine is always to be given internally, never hypodermically, and he gives the formula thus :—

℞ Cocaini Muriat.	0·5	Aq. destillat.	100·0
Acid. Salicylat.	0·1		

(3,) The single dose of cocaine may be from 0·05 to 0·1, administered as required several times in the day ; but a daily dose of 0·5 should never be exceeded.

(4,) On the second or third day, the daily quantity should be rapidly diminished, and the cocaine treatment should not in any case be continued more than five or six days.

Administered in this way, it is claimed that cocaine in many cases relieves the distress of morphia abstinence, as it does the feeling of hunger, thirst, and weariness.

[During the withdrawal of the customary dose of morphia, we have found nothing give so much relief to the patient's distress as the use of the hot moist blanket pack, until free perspiration is induced. The use of vapour and Turkish baths is invaluable under the same circumstances.—ED.]

An anonymous author[2] advocates the use of **Sulphate of Codeine** for the cure of the morphia habit. He gives 1 or 2 grains every three

hours, according to the urgency of the symptoms. The intervals are gradually increased between the doses, and at last it is suspended entirely. On account of its comparative insolubility, it is best used by heating with the required amount of water in a spoon over a spirit lamp, and the solution should be injected immediately before it cools sufficiently to allow recrystallization. There is no danger of an overdose, as the barrel of an ordinary hypodermic syringe will hardly hold more than two grains in solution.

REFERENCES.—[1] Obersteiner, "Wien. Med. Presse;" "Dublin Journ. of Med. Sci.," Dec., 1892; [2] "New York Med. Journ.," Jan. 7, 1893.

Synopsis.—(Vol. 1893, p. 395.) Any **Opium** given should be by mouth. To relieve depressed cardiac action 1 or 2 granules containing $\frac{1}{100}$ gr. **Glonoin**, or inhalations of **Nitrite of Amyl** may be used. **Sparteine** and **Strophanthus** are the best heart stimulants, the last being bitter like morphine, and can be added to it concealing the reduction of the dose; $\frac{1}{4}$ to $\frac{1}{2}$ gr. sparteine or 7 to 8 drops strophanthus tincture are given with each dose of morphia. **Sulphonal** should be used to obtain sleep. For general pains, slight diarrhœa, and loss of appetite, **Massage**, rubbing the skin with alcohol, and liquid food may be used. If symptoms are very violent, the dose of morphia must be temporarily increased. Usually morphine can be decreased $\frac{1}{4}$ gr. daily until $\frac{1}{4}$ to $\frac{3}{4}$ gr. is taken daily, then it is diminished more gradually. **Exercise** and **Amusement** are important.

MUSCLES, Contraction of (Myositis Syphilitica).

John B. Hamilton, M.D., LL.D., Chicago.

In determining the cause of a permanent muscular or tendinous contraction the possibility of the lesion being due to syphilis should not be ignored, although such a condition is rare, and is seldom dealt with in text-books.

When present it usually appears among the secondary manifestations, but may be a much earlier symptom.

Two forms (or stages) are described, viz., the gummatous and sclerous.

Usually the tendons and their sheaths are first affected, and there is nocturnal myalgia, and later on the gummata develop in the muscle substance and give rise to circumscribed enlargements. If the disease is progressive this deposition of gummatous material continues, the muscular septa and tendon sheath becoming more and more infiltrated, contraction takes place; and the sclerous form may then develop, which is characterized by further production of exudative material, the contraction of which is attended by shortening and hardening of the muscle tendon, together with emaciation of the muscle belly.

In neglected cases (on account of mal-nutrition and lack of use),

fatty or calcareous degeneration commences, and culminates in an entire loss of voluntary movement, in very rare cases ossification; and as this condition is frequently coincident with grave lesions of internal organs, any operative treatment directed to the muscles or tendons is nearly useless.

This form of syphilis shows a special predilection for the biceps muscle, which is the first and often the only one attacked. Occasionally the biceps femoris, or the sphincters, or the sterno-mastoid (giving rise to one form of wry neck), or the trapezius may be affected; rarely the flexor and extensor groups of the limb have been simultaneously implicated.

For diagnostic purposes the presence of other syphilitic symptoms is very important. Where the biceps only is involved it will be found that extension is the only movement of the elbow-joint which is really impaired, although the possibility of a co-existent syphilitic synovitis, producing partial or complete anchylosis, should also be borne in mind.

TREATMENT.—Tenotomy is useless, and section of muscle tissue is tedious and very unsatisfactory. In recent cases the adhesions should be broken down under anæsthesia, after which the limb may be rested on a splint for two or three days, and then put through its full range of motion two or three times a week or oftener. At the same time the patient should be brought under the influence of **Mercury** by inunction, etc. Large doses of **Iodide of Potassium** are also recommended.

MYOPIA.

Synopsis.—(Vol. 1893, p. 396.) Valude breaks up the lens in some cases if fundus is healthy, if not, retinal detachment may follow. Children should sit upright while writing, and Schubert considers that they should be taught to write vertically.

MYXŒDEMA. *Græme M. Hammond, M.D., New York.*

Dr. W. C. Krauss[1] reports two cases of myxœdema which had been treated with the **Thyroid Glands** of sheep. The first case was a woman, fifty-three years of age, whose mother had had similar symptoms. Following an accident the typical symptoms of myxœdema appeared. She was fed for six weeks upon the thyroid glands of sheep, but no improvement could be detected. In the second case desiccated thyroid glands were used, but no relief was experienced. The only drug that acted beneficially was **Perchloride of Iron.**

On the other hand, Lundie[2] presents a tabular statement of thirty-two cases treated by the subcutaneous injection of sterilized extract of the thyroid of the sheep, after the manner proposed by Dr. Murray. All of these cases improved except two. The administration of the

thyroid glands by the mouth, either raw, cooked (parboiled or fried), extracted in glycerine, and in the form of a dry powdered extract, have all been found about equally efficacious, except when too much heat has been applied in the process of cooking the glands. In that case the remedial property is destroyed.

Dr. Napier calls attention to the necessity of selecting healthy glands, and shows that not more than half the glands derived from sheep, calves and swine, are free from abnormal changes.

REFERENCES.—[1] "New York Med. Journ.," Aug. 14, 1893; [2]Ibid., May 22, 1893.

[*Editorial.*

Dr. Hector W. G. Mackenzie,[1] employing **Fresh Sheep's Thyroids,** given by the mouth, sums up the effects observed, as follows: (1,) A marked acceleration of the pulse and rise of temperature proportional to the quantity of thyroid given, these persisting for some time after the administration is discontinued; (2,) A general diminution of the swelling, and amelioration of all the symptoms accompanying myxœdema. He says that in the administration it has been found that the thyroid is less nauseating when given with a little brandy. Dr. Mackenzie is inclined in future to commence the treatment with either one thyroid every other day, or half a thyroid every day.

Dr. McCall Anderson[2] points out the necessity of caution in the treatment of patients with cardiac weakness. This is also insisted on by Dr. George Murray, who lost two of his patients from heart failure, the thyroid having been administered to persons well advanced in years, and suffering from disease of arteries with cardiac degeneration. Dr. Anderson agrees with Dr. Thompson that, when treating patients with unsound hearts, stringent precautions should be taken for the observance of complete rest in the recumbent position, avoidance of all excitement, and an alcoholic or other stimulant to be used simultaneously with the treatment. He favours the performance of phlebotomy should heart failure supervene.

The Symptoms of Myxœdema.—Dr. George Murray,[3] of Newcastle, refers to two common symptoms in cases of myxœdema which are not generally recognized. One is the frequent presence of troublesome piles; the other, the occurrence of a thick mucous discharge from the mouth at night.

REFERENCES.—[1] "Brit. Med. Journ.," October 29, 1892; [2] "Practitioner," July, 1893; [3] "Edinburgh Med. Journal," p. 1054, May, 1893.

NÆVUS OF THE EYE. (See "Eye.")

NERVES PERIPHERAL (Surgery of). (See "Torticollis," "Neuralgia," and "Nerves.")

NERVES (Suture of). *William Thorburn, B.S., F.R.C.S.*

Berger[1] records a case of section of the ulnar nerve of four months' duration with complete motor and sensory paralysis, in which, two days after suture, sensation was largely restored, recovery being complete in four days.

Gleiss[2] analyzes thirteen cases of nerve suture, the operations being performed on eleven patients. In none of the operations, whether primary or secondary, was there any evidence of immediate union; but with one exception all the cases recovered.

Hodges[3] contributes an excellent account of the whole subject of nerve suture. As regards results, he finds 74 per cent. of recoveries after primary, and 88 per cent. of recoveries after secondary suture. Several interesting personal observations are recorded in this paper.

In connection with the demonstration of Berger's case, already referred to, there arose an interesting discussion by the Paris Academy of Medicine as to the question of return of function after nerve suture. Laborde[4] explained fully how clinical and physiological results differ, in so far as physiological experiment negatives the idea of immediate re-union of a divided nerve, and rapid recovery of function is incompatible with the known methods of nerve regeneration. Dwelling on the anastomoses of nerves, and on the known facts of "recurrent sensibility" by means of sensory nerves returning to the central organs in motor tracts, he endeavours to explain the clinical phenomena by assuming that the operation influences the activity of conduction of these vicariously acting fibres. This theory was amplified by Brown-Séquard,[5] who adopts the view that sensation and motion are provided for not only by the nerve trunk anatomically recognized as supplying the affected part, but also by many secondary (recurrent and anastomotic) fibres; that the section of a nerve paralyses, both by direct injury to the principal fibres and also by inhibition of these secondary fibres (examples being given of inhibition of distant nerves, as, *e.g.*, paralysis of the anterior crural after section of the sciatic); and that the operation of suture causes (reflexly) this inhibition to be succeeded by exalted nervous activity or "dynamogeny" in the secondary tracts. Thus, then, nerve suture may lead to the restoration of function: (1,) Immediately, by its dynamogenic action on the secondary fibres; (2,) At a later period by recovery of the primary trunk which always takes place by down-growth of the central and, the peripheric end invariably degenerating.

REFERENCES.—[1] "Bull. de l'Acad. de méd.," No. 10, 1893; [2] "Bruns' Beiträge z. klin. Chirurgie," vol. x.; [3] "Medical News," Nov. 12, 1892; [4] "Bull. de l'Acad. de méd.," 1893; [5] Ibid., No. 20.

NERVOUS DISEASES (Hydrotherapy in).

Græme M. Hammond, M.D., New York.

Dr. F. Peterson[1] recommends **Hydrotherapy** for the following conditions: *For tonic and refreshing effects*, a cold rain bath (50° to 70°), the patient rubbing while in the bath; duration five or ten seconds, or the half-bath in the tub at 65° to 75°, ten to thirty minutes. By "half-bath" is meant only six or eight inches of water in the tub, in which the patient lies and splashes about and is rubbed by an attendant. Such a bath should be taken every morning. *For powerful tonic, revulsive and derivative effects*, the Scotch douche is very serviceable. This consists of a stream of water ejected from various nozzles in the form of a jet, a spray, a shower or a fan, alternating with hot and cold water. This is indicated in lithargic and hysterical forms of insanity; where there is sluggishness of the intellect, apathy, stupor, catalepsy, etc.: and in melancholia, anæmia, chlorosis, or gastric disorders.

To produce sleep, the prolonged warm whole bath is indicated. Temperature 70° to 79°, duration one-half to two hours. This procedure is indicated also in melancholia with excitement, and in some maniacal conditions. As a general hypnotic agent, applicable to all forms of insomnia among the insane, the hot wet-pack stands foremost. It is applied in this way: a blanket, 9 ft. by 9 ft., is spread upon the patient's bed, and upon this a sheet, wrung out dry after dipping it in hot water, is laid. The patient lies down upon this, and the sheet is at once evenly arranged about and pressed around the whole body with the exception of the head, after which the blanket is also immediately closely adjusted to every part of the patient's body. Other dry blankets may now be added if necessary. The patient remains in this an hour or longer, or all night, if asleep.

REFERENCE.—[1] "American Lancet."

NERVOUS EXHAUSTION.

Synopsis.—(Vol. 1893, p. 17.) Wood and Cerna suggest that the respiratory stimulant effect of **Chloralamide** should indicate it in nervous exhaustion.

NEURALGIA. *William Thorburn, B.S., F.R.C.S.*

Surgical Treatment of.—A case of excision of Gasserian ganglion is recorded by Lanphear[1] who adopted, in a severe case of trigeminal neuralgia, Rose's operation through the pterygoid region. The steps were: Incision from the outer angle of the orbit along the zygoma, then straight down over the parotid to the angle of the lower jaw, and along its lower border to the facial artery; the flap is raised, sparing the parotid, its duct, and the facial vessels; the zygoma

is divided and turned down with the masseter, and, the coronoid process of the lower jaw being also divided and held aside with the temporal muscle, the pterygoid is exposed. The external pterygoid muscle being separated from the skull by the raspatory, and drawn down, the foramen ovale is found. On now attempting to trephine, much trouble arose from injury to the middle meningeal artery, which had to be ligatured. Finally a circle of bone was removed and the dura opened, but the free bleeding rendered it impossible to distinguish the ganglion. All visible nerve elements were, however, removed with scissors and curette, after which the wound was closed. A violent purulent conjunctivitis followed, in spite of all precautions, but eventually a good recovery ensued.

Andrews[2] has operated in three cases: one patient dying of shock. He made numerous experiments to ascertain the best method of procedure, and finally adopted an operation similar to the last with the following modifications: The internal maxillary was ligatured on exposure; the inferior maxillary nerve could not be found, having been formerly resected, so the foramen ovale was localised by following the posterior margin of the pterygoid process to the base of the skull: through the foramen a probe was passed on to the ganglion, and the trephine applied immediately externally to it. Through the opening thus made the ganglion was removed, but the ultimate result of the case is not recorded.

Hartley[3] again describes the operation introduced by him in 1891, for intra-cranial division of the fifth cranial nerve without removal of Gasserian ganglion. The dura is raised from the ganglion, and the second and third branches divided, as close to it as possible, the peripheral ends being then thrust as far as possible down into their foramina of exit. The operation is not difficult, and in Hartley's case, although there followed paralysis of the orbital muscles, probably from tearing of their nerves, this eventually recovered. Three other cases are referred to in this paper.

Chalot[4] describes a case of obstinate trigeminal neuralgia in which he obtained a cure by the simultaneous performance of the following operations: Resection of the superior maxillary nerve and sphenopalatine ganglion in the pterygo-maxillary fossa, after temporary resection of the malar bone; removal of the infra-orbital nerve by its canal; resection of the inferior dental and lingual nerves by a trephine opening in the lower jaw; and resection of the auriculo-temporal.

Drobnick[5] records two cases of resection of the inferior maxillary division of the fifth cranial nerve by the method of Mikulicz, which he

prefers, and which consists in resection of the lower jaw by external incision, exposure of branches of the nerve, and tracing of these backwards to the foramen ovale. By this method the nerve is readily exposed and large portions can be removed if thought advisable.

Schulze-Berge [6] cured a case of trigeminal neuralgia by stretching the facial nerve—the cure persisting at the end of a year. He regards this curative action as a result of the paralysis of the facial muscles giving rest to irritated sensory fibres, and recommends operation on the motor nerve as being most likely to do good in cases in which the pain is preceded by spasm.

REFERENCES.—[1] "Pacific Med. Journ.," Nov., 1892; [2] "Journ. of Amer. Med. Assoc.," p. 180, 1893; [3] "Annals of Surgery," May, 1893; [4] "Bull. de la Soc. de Chir. de Paris," vol. xviii., p. 372; [5] "Archiv. für klinische Chirurgie," vol. xlv., Part 2; [6] "Archiv. f. klin. Chir.," vol. xlvi., Part 1.

[*Editorial.*

Professor Hayem[1] contends that to intelligently treat pain the varieties must be thoroughly understood, and to facilitate matters, classifies pain as follows: Class 1, treated according to the intensity; Class 2, according to location; Class 3, the course of the pain, as to periodicity, duration, etc.; Class 4, the age of the case.

The intensity of the pain is of great importance when it comes to treatment. One of the most painful affections is facial neuralgia. The remedies mostly employed are **Aconitine, Morphine**, and **Atropine** hypodermically; **Antipyrin** is sometimes used in the same manner. For internal medication, **Quinine, Antifebrin,** and **Exalgine** seem to offer the best results, the quinine to be given during the interval between the paroxysms. Aconitine is the drug mostly relied upon to control the pain; when the suffering is not severe, the antifebrin and exalgine are employed with benefit. Where the neuralgia is of the trunk or extremities, some remedy must be used which acts locally, such as revulsives. One of the best remedies which the author has found is the refrigeration of the part by **Chlormethyl.** If the condition is of the congestive form, as in recent rheumatic neuralgia, scarification is good practice. The topical application of a sedative is sometimes followed by good results. Some of the alkaloids of opium, made up in an ointment, to be rubbed over the part, often relieve pain. Veratrine, camphor, and menthol can be used in this way. In hemicrania, dependent upon bad digestion, antipyrin and phenacetin, internally administered, often give relief from pain. The opium preparations alone, or in combination with cocaine, are particularly indicated in the smarting pain occurring in the neuroses of the digestive tract. The so-called rheumatic neuralgia is best con-

trolled by the internal administration of quinine and salicylate of sodium.

Liniment for Neuralgia.—"L'Union Médicale" for June 4, 1892, recommends the employment of the following :—

℞	Chloroform	ʒvj	Spirits of Camphor	ʒiij
	Sulphuric Ether	ʒj	Tincture of Opium	ʒiss

M. Sig.—Soak a small piece of flannel with the liniment, and apply over the painful part.

REFERENCES.—[1] "Therap. Gaz.," Sept. 15, 1892 ; "Journ. Nerv. and Ment. Dis.," June, 1892.

Synopsis.—(Vol. 1893, pp. 10, 12, 25, 45, 400, 514.) **Antinervine** has proved useful; it is a combination of salicylic acid, 1 part; acetanilide, 2 parts; ammonium bromide, 1 part. **Bromamide**, 10 to 15 grs. several times a day. **Euphorin. Phenocoll**, 4 to 15 grs., gave fair success in the neuralgia of influenza. Malherbe employed **Cocaine** hypodermically in one of the following forms: ℞ Cocaine Hydrochlorate, gr. 15; Water, ʒvj; or, ℞ Cocaine Hydrochlorate, gr. 15; Boric Acid, gr. 8; Distilled Water, ʒvj; or, ℞ Neutral Glycerin, ʒj to ij; Cocaine Hydrochlorate, gr. 15. One drop is injected, and the nerve felt for by moving about the needle; when found, several more drops are placed in contact with the fibres. Horsley relies most on **Quinine**, combined with **Arsenic** and **Gelsemium** for trigeminal neuralgia; **Antipyrin** and **Antifebrin** may be useful; opium should be avoided; **Chloride of Ammonium, Aconitine** and **Counter-irritation** over the point of emergence of the nerve are useful. In some cases **Galvanism** relieves; if not, **Nerve Stretching, Neurectomy** or **Nerve Avulsion** must be considered.

NEURASTHENIA. *Græme M. Hammond, M.D., New York.*

Constantin Paul[1] reports the result of the treatment of sixty-one cases of neurasthenia by the injection of the **Gray Substance** of the cortex of the sheep's brain diluted with water. In fifteen cases there were no results. Eight of these did not give the treatment a proper trial. The other cases showed improvement in their sleep, mental activity, and cardiac strength.

Pitres[2] calls attention to various motor disturbances in neurasthenia which facilitate the diagnosis, but are too often erroneously called hysterical. Tremor, the most important, exists in two-thirds of all cases, and is identical with that of exophthalmic goître ; fine, vibratory, and closely resembling the so-called alcoholic tremor.

Other motor troubles exist, though less frequently, such as cramps without apparent cause, attacks of muscular weakness, rhythmic spasms of the neck, tongue, and diaphragm, and constrictions of the œsophagus. Abasia may also be a symptom of neurasthenia.

REFERENCES.—[1] "Practitioner," May, 1893; [2] "New York Med. Journ.," Sept., 1893.

[*Editorial.*

The following frequently proves useful in the gastric disturbances of neurasthenic patients :—

℞ Phosphide of Zinc	grs. ij	Bromohydrate of Quinine	grs. xxx
Bromide of Zinc	grs. xx	Ext. of Nux Vomica	grs. iij

Divide into thirty pills : 3 daily.

REFERENCE.—"Med. Press," Sept. 20, 1893.

Synopsis.—(Vol, 1893, pp. 31, 400.) **Ferrum Peptonatum** in aqueous solution 1 in 10, and **Ferrum Oleatum** diluted 1 to 20 in **Olive Oil**, have been given hypodermically, if not well borne by the stomach; the former is preferable. Paul treated three cases of chlorotic neurasthenia with hypodermic injections of **Gray Substance from a Sheep's Brain**, macerated for twenty-four hours in **Glycerine** and **Water**; 1 cm., gradually increased to 5 cms., was used twice weekly with benefit.

NEURASTHENIA SPINALIS.

Dr. Weber, in the course of a paper on the treatment of this condition, remarks that: "It will probably interest those who may not have had occasion to watch many of those people who are in the habit of dosing themselves regularly with Carlsbad salts for the purpose of keeping their bowels regular, that relatively small doses of sulphate of soda, not more than is contained in two drachms of Carlsbad salts, taken daily for some six weeks or longer, will be apt to produce pretty profound symptoms of neurasthenia in persons who are not robust by nature. Since my attention has been drawn to this peculiar action of sulphate of soda, in a case where I could eliminate every other cause, I have read of two similar cases of the kind reported by German observers. I have no reason to believe that the neurasthenic trouble in my case was due to diarrhœa, for the patient in question was too careful to take more than was just requisite to move his bowels. Aside from gastro-intestinal dyspepsia, and subsequent deficient nutrition of blood and nerves and muscles, it is not unlikely that the drug may have some directly poisonous effect upon the nervous system. With reference to an early cure of such cases, I can only say that it took my patient nearly a year to get well again."

REFERENCE.—Weber, "Med. Record," Sept. 9, 1893.

NEURITIS. *Græme M. Hammond, M.D., New York.*

Handford [1] reports a case of neuritis evidently rheumatic in origin. The patient was admitted into the Nottingham Hospital, presenting the ordinary appearance of a case of subacute articular rheumatism. Under **Salicylates** she improved rapidly, and after three days' treatment the pain and most of the swelling of the joints had subsided. She

then began to develop neuritis in the upper extremities. There were the usual symptoms of numbness, analgesia and anæsthesia with loss of wrist-jerks. Later on, wasting of the thenar and hypothenar groups of muscles was observed. It was nearly four months before recovery was completed.

Bristow[2] reports three cases of peripheral neuritis caused by hysteria, all of which promptly yielded to treatment. **Arsenic** was administered, and the **Continuous Current** and **Belladonna** and **Chloroform** were applied locally. In one case the arms from the elbow down were placed in a trough, filled with water, which was maintained at blood heat. This afforded great relief.

Lloyd and Riesman[3] report two cases of neuritis depending upon a septic origin. The first case began with a typhoid type of fever which had continued for three months. An aortic regurgitant murmur, with water-hammer pulse, gradually developed, and later a purpuric eruption appeared. The neuritis was irregularly distributed. At the *post mortem* examination immense vegetations were found on the aortic valves, with infarcts in the spleen and in one kidney. Sections of the cord and nerves exhibited slight posterior sclerosis in the former, and extensive inflammation in the latter. The second case also simulated typhoid fever with the yellow-coloured stools. The *post mortem* revealed multiple abscesses in the brain, a large embolus in the left brachial artery, and an infarct in one kidney. These conditions were dependent upon a giant growth of vegetation as large as a pullet's egg, attached to the inner coat of the aorta, overhanging the orifices of the innominate carotid and subclavian arteries.

REFERENCES.—[1] "Braith. Ret. of Med."; [2] Ibid.; [3] "New York Med. Journ.," Aug. 19, 1893.

NOSE (Diseases of the). *P. Watson Williams, M.D., Lond.*

Disease of the Nose, as a Factor in Disease of the Lower Respiratory Tract.—It is conceded that the nasal passages constitute the first portion of the normal respiratory tract, and that "mouth-breathing" is not only a source of inconvenience, but is generally attended with troublesome affections of the lower respiratory tract. This being the case, it follows that the nose performs important functions which cannot be fulfilled by the mouth, and a careful examination of its structure affords a ready explanation of these functions.

The superior half of the nasal fossæ is mainly concerned with the function of smelling, but the mucous membrane of the middle and inferior turbinated bones contains vascular erectile tissue which warms and moistens the inspired air. The mucous membrane here consists of connective tissue, the surface of which is covered with ciliated epithe-

lium, the deep portion forming the periosteum. Between these two layers are lymph tissue, an abundant supply of lymphatics, and numerous venous plexuses, into which the capillary veins freely open, as shown in the accompanying illustration* (*Fig.* 49). Around the venous plexuses unstriped muscular tissue is distributed. The plexuses by distension cause the turbinal bodies to swell considerably.

Fig. 49.—Section of the erectile tissue seen under low power; showing the arrangement of the vessels and venous spaces, into which the collecting veins are seen to open.

Numerous elastic fibres in the deeper layers cause the tissue to collapse unless actively distended by the peculiarly arranged vascular supply. Similar erectile tissue is found occupying the lower part of the septum and the floor of the nasal fossæ.

It can readily be conceived that these highly vascular mucous tissues are capable of rapidly warming inspired air as it passes over them, and of secreting with equal rapidity a copious supply of watery mucus which can yield its moisture to the warmed air. That this actually does take place has been demonstrated by Kayser, Block, and Greville MacDonald.

The conclusions arrived at by these observers may be summarized as follows:—

(1,) Whatever the temperature of the atmosphere, the air, after ordinary inspiration through the normal nasal passages, is always raised to the temperature of the blood before reaching the pharynx.

(2,) The air, after passing through the nose, is invariably completely saturated with moisture.

It has been estimated that about half a pint of water is taken up by the inspired air in the course of twenty-four hours, and if the air is to reach the lungs in the normal condition of saturation, it is obviously

*(By permission of the Proprietors of "The Hospital.")

impossible for that amount of moisture to be taken up from the bronchial mucous membrane without serious risk to its physiological integrity. We know very well that we can breathe all the night through, and awake in the morning with the pharynx and larynx in a moist and normal condition ; but if we have lain an hour or two breathing through the open mouth, the pharynx is quite dry, or is covered with a tenacious thick mucus, and if this mouth-breathing becomes a habit, the pharynx and larynx suffer from chronic congestion, and the parts are "relaxed." It is, in fact, unnecessary to dilate on the pernicious effects of mouth-breathing ; the constant tendency to laryngitis, attacks of bronchitis, and various ways in which the evil effects are manifested, are familiar to practitioners. I have, however, emphasized the importance of the structure of the nasal mucous membrane as a factor in healthy respiration before inviting attention to some of the less generally recognized pathological conditions which, by interfering with the vascular mechanism for warming and moistening the inspired air, expose the patient to all the adverse conditions of mouth-breathing.

Mechanical Obstruction.—First, while it is obvious that complete obstruction of the nasal passages compels the patient to breathe through the mouth, there are many affections which may give rise to partial obstruction, such as deviations of the septum, the presence of polypi, post-nasal growths, etc. Without a careful examination, such conditions may be overlooked, as during quiet respiration in the consulting room, the nasal passages may be sufficiently free for apparently perfect nasal respiration. A considerable deviation of the septum, a spine of a turbinal bone, remains of old post-nasal adenoids, small polypi, are often present with only partial nasal obstruction.

That these, or any other causes of complete or considerable mechanical obstruction of the nasal passages, must result in mouth-breathing is obvious, and need not here be further alluded to, the consideration of the various methods of removing such obstruction being beyond the scope of my article.

Rhinitis.—But a similar partial mechanical obstruction, when it is the result of pathological conditions affecting the lining membranes of the nose, is of even greater importance, for, as I have shown, these tissues have functions to perform which are almost essential to the continued well-being of the individual.

It is wholly unnecessary to differentiate between the slighter variations in rhinitis cases to the extent of giving a separate name to each of the many degrees of congestion, hypertrophy, or atrophy that the mucous membranes present in individual cases. Yet, clinically, it is

convenient to make certain broad distinctions, more especially when we come to discuss the treatment.

Acute Rhinitis.—The common acute nasal catarrh is familiar enough to all, and, as a rule, the affection gives rise to nothing more than a temporary inconvenience. But when the attacks recur frequently, it generally results in a certain degree of permanent thickening of the tissues and chronic congestion—a more or less persistent chronic rhinitis, with frequent slight exacerbations. Chronic rhinitis is thus often left in children after measles or scarlet fever, and is associated with more or less marked general ill-health, a condition which is not infrequently accepted with resignation by the friends, and too often by the medical attendant, in the hope that some day the child will grow out of it.

Other causes of chronic rhinitis are the inhalation of irritating particles of dust, such as are produced by working in stone, mattress making, and upholstery. The degree of irritation set up by the effects of these, or any cause, varies greatly with the individual, extreme susceptibility being commonly associated with the neurotic temperament.

But there are also certain diathetic conditions, more especially gout, which are often alone responsible for the occurrence of chronic rhinitis. "Gout, whether inherited or acquired, is exceedingly apt to produce inflammatory lesions in the upper air passages, hypertrophic catarrh being one of the commonest manifestations" (Seiss).

We must bear in mind that the physiological vaso-motor mechanism, which is responsible for the ever-varying amount of distension of the erectile tissues in the nasal passages, causing their distension or collapse, is liable to perversion, and that a disturbance of this complex function is by no means uncommon. Thus Morell Mackenzie, referring to the neurosal variety of nasal catarrh, quotes Bidoo's case, an instance, apparently, of traumatic origin, in which twenty-five ounces of pale fluid were discharged from the right nostril in twenty-five hours; and a still more remarkable case, related by Elliotson, where a lady, on two different occasions, suffered from profuse discharge of watery fluid from the left nostril, the first attack having lasted eighteen months, and the second twenty-three. It was estimated that during the first attack she passed one hundred and ninety-three gallons of fluid in all; whilst during the second, three quarts were discharged in a single day.

It is generally believed that all cases of simple chronic rhinitis, from whatever cause, tend to result in chronic thickening with hypertrophy.

Hypertrophic Rhinitis.—The turbinated tissues are then remarkably transformed, becoming more or less dense from the great increase in the fibrous tissues ; the venous sinuses become either partially or completely obliterated. On examination, it is then found that the lower turbinal bodies have become greatly hypertrophied, both in front and behind. The nasal passage is more or less blocked by the mulberry-like, succulent-looking growth which is not infrequently mistaken for a polypus. There should be no difficulty, however, in differentiating between the smooth surfaced, grayish, translucent mucous polypus (which is often unilateral, and is almost invariably attached to the middle or superior turbinated bodies, and never grows from the inferior) and the hypertrophic rhinitis, which is generally bilateral, and almost invariably most marked on the inferior turbinated. By posterior rhinoscopy, we observe the pale, whitish, or gray hypertrophied masses, with irregular mammillated surface, which the inferior turbinateds form on either side of the septum, and more or less completely occluding the choanæ.

The symptoms of the hypertrophic stage of chronic rhinitis are similar to those of chronic nasal catarrh greatly intensified, the blocking of air passages being often so considerable that the patient cannot blow his nose. In all forms of rhinitis, reflex nerve phenomena are prone to occur, especially asthma. A troublesome, persistent, and spasmodic cough is not unusual, and is analogous to the cough produced by the passages of a Eustachian catheter, and the pernicious influence of the affection in regard to the lower respiratory tract is sufficiently obvious.

Atrophic Rhinitis.—To what extent atrophic rhinitis should be regarded as the final stage of hypertrophic rhinitis is doubtful. While J. N. Mackenzie regards ozæna as one of the destructive features of the atrophic or third stage of simple inflammatory rhinitis, and does not admit that rhinitis is ever *ab initio* atrophic, Greville MacDonald has directed attention to the fact that ozæna, typical atrophic rhinitis, is a disease of adolescence, being almost confined to children and young adults, while hypertrophic rhinitis is uncommon in the young. Ozæna is generally associated with anæmia or the strumous diathesis.

We cannot, however, ignore the fact that a certain proportion of cases of hypertrophic rhinitis pass into the stage of complete atrophy, and that they are generally attended by the horrible, foul odour characteristic of ozæna.

Simple dry rhinitis, or *rhinitis sicca*, has generally been confounded with the atrophic form, and, as Macdonald has clearly shown, without sufficient justification.

But in both affections, *atrophic rhinitis* and *rhinitis sicca*, the complete abrogation of the normal functions of the nasal mucosa gives rise to a constant dryness in the throat, and a similar condition in the larynx and trachea. The patient is continually hawking up dried crusts of inspissated secretion from the larynx and trachea, and constantly suffers from huskiness, or even aphonia. Bosworth makes the statement that "this abolition of the respiratory function of the nose, causing an abnormal dryness of the inspired air, causes also more or less irritation of the larynx and bronchial tubes, not sufficient, as a rule, to give rise to a bronchitis, but rather to a constant sense of irritation, due to the fact that the normal mucous secretion becomes dry, and, lodging in the passages, gives rise to a constant hawking or 'hemming,' by which the patient attempts to clear the throat. Hoarseness is often present, and impaired vocal function always. A form of laryngitis has been described by writers, notably Lennox Browne, characterized by the formation of dry crusts in the larynx and trachea." The implication seems to be, that a diseased condition really exists in these parts. As a rule, it is difficult to determine any notable morbid lesion here, and I should rather lean to the view that it was purely a symptomatic affection. Spasm of the glottis, of a dry distressing character, I have met with in connection with atrophic rhinitis. Several of these cases were in young women of highly nervous organization, while in others I have seen it in men of full habit and vigorous health, with no suspicion of neurotic tendencies. In these cases, it has disappeared by vigorous measures directed to the nose. Its occurrence can only be explained by the presence of inspissated mucus or pus in the larynx acting as a foreign body.

It is unnecessary to pursue this aspect of the subject further, but it will be evident that there are diseased conditions of the nose which must tend to originate or to maintain disease in the lower respiratory passages, and which are sufficient to prevent restoration to health so long as they remain untreated, and which, doubtless, explain the difficulty that not infrequently occurs in obtaining satisfactory results of treatment directed solely to the larynx and lungs. On the other hand, we must guard against attributing too much to slight or even considerable deviations from the normal nose, for it is certain that very few noses in even perfectly healthy individuals would fail to present some, at least, of those conditions which are considered pathological. Only when the presence of such departures from the healthy standard are found associated with symptoms due to intranasal disease should they be rectified.

TREATMENT.—In giving a brief outline of the simple methods of

treating the diseased conditions to which I have alluded, I will first refer to the difficulty that is experienced in relieving nasal obstruction in infants at the breast, in whom, by impeding the act of sucking, relief becomes a matter of grave importance. In acute nasal catarrh, whether due to a cold or as an early indication of measles, it may be possible to feed the child with a spoon till the obstruction disappears, but the infant will not infrequently decline all nourishment from any but the natural source. MacBride recommends spraying the nares cautiously with a 5 per cent. solution of **Cocaine** just before the child is put to the breast. The injection of a very small quantity suffices to reduce the swelling of the mucous membrane. This authority also recommends **Menthol,** in the form of a 20 per cent. solution in olive oil, used in the same way, and refers to the recommendation of Voltolini of syringing the nose with **Camomile Infusion,** to which a little alum had been added, while the child is sitting up, and to the introduction of tubes into the nostrils in order to permit of nasal breathing during sucking.

The chronic form of nasal catarrh in young children, if not dating from an acute attack, is generally associated with syphilis or the strumous diathesis. It is, therefore, advisable in all cases to administer small doses of **Mercury** for a short period. Goodheart has observed benefit from a course of gray powders in chronic snuffles, even when there is no other symptom pointing to syphilis; in this statement H. B. Donkin concurs.

Spraying the nasal passages with a weak **Alkaline Solution** (sodii carb. gr. xv., sodii biborat. gr. x., sodii chloridi gr. v., aq. destil. ad ℥j) is often attended with excellent results.

The possible existence of post-nasal adenoids should not be forgotten.

In dealing with the chronic forms of rhinitis in adults, attention to the general health is essential to success, although it is too often regarded as a purely local affection. Indigestion, a tendency to constipation or torpidity of liver, if present, should be treated. Especially in cases of *rhinitis sicca*, any suspicion of over indulgence in alcohol, should receive attention. A change of air, or a voyage, plenty of outdoor exercise, and avoidance of hot, overcrowded rooms and late hours, will often succeed when local treatment has completely failed. When we bear in mind the fact that chronic rhinitis is often largely dependent on disturbance of the neuro-vascular mechanism, that it is almost a neurosis, the necessity for a generous tonic line of treatment is obvious.

In the earlier cases of *simple chronic rhinitis*, such general measures

may be aided by mild local applications. I have found the greatest benefit from liquid **Vaseline** containing **Terebene** (grs. x ad ℥j), **Eucalyptol** (gr. xv ad ℥j), with **Camphor** (gr. j to ij to the ounce), sprayed well in the nose by means of the atomisers now so universally employed. This should be done night and morning for some weeks. If crusts of dried secretion tend to collect in the passages, a weak solution of **Bicarbonate of Soda** and **Borax,** in warm water, should be forcibly sprayed in for some minutes till they are loosened and can be cleared out, the oily solution being subsequently used. A post-nasal spray must be used occasionally by the medical attendant to ensure thorough removal of all collections of inspissated secretions in the naso-pharynx.

As the condition improves, and the mucous membrane of the nose becomes more tolerant, a snuff composed of **Sodium Chloride** ℥ij, **Boracic Acid** ℥ss, **Ammonium Chloride** ℥ss, **Camphor** gr. i, may be used twice a day, instead of the other local remedies.

These are the remedies I have found most uniformly successful; but many others are recommended by various authorities, such as solution of **Zinc Sulphate** grs. ij, **Alum** gr. iv to viij, **Zinc Chloride** gr. j, **Nitrate of Silver** gr. ij to xv, **Sodium Benzoate** grs. xxx to the ounce, **Tar Water,** insufflations containing **Nitrate of Silver, Tannic Acid, Iodol, Sozoiodol, Sanguinaria,** etc.

Where we have to deal with *the hypertrophic form of rhinitis*, no local remedy can compare with the use of the **Galvano-cautery,** or the **Snare.** In well-marked cases, it is hopeless to expect a reduction of the mass of hypertrophied tissue by other methods. By the application of a 10 per cent. solution of cocaine, we not only render the parts insensitive, but are able to judge how much of the enlargement is due to true fibroblastic new growth which requires removal. If it can be secured in the snare, it should be removed by this means; and if the cold snare be gradually tightened, it can be accomplished without hæmorrhage, although the incandescent wire is, on the whole, preferable, since the operation can be completed in a shorter time. The treatment of anterior enlargement in this way is comparatively simple, but it is a far more difficult matter to engage the denser posterior hypertrophies in the snare. This may often be managed by very gently tightening the snare, and using the incandescent wire till a groove is formed, which prevents the wire slipping, the operation being then completed with the cold wire. But, in spite of every care, it is sometimes quite impossible to engage the hypertrophied mass unless it is transfixed by a Jarvis needle, so as to prevent the wire slipping when tightened.

When the hypertrophy is not suitable for snaring, one deep linear cautery groove should be made in the whole length of the inferior turbinated bodies, in preference to very extensive superficial cauterizing. Two or three such cautery incisions are generally required to reduce the hypertrophy, and at least one week should be allowed to elapse between each. Of course, such a procedure should only be attempted by those who are experts in the use of the galvano-cautery, as very great harm often results from the unskilful manipulation of the electric cautery. In the slighter cases, I generally find that the application of **Trichloracetic Acid,** or **Chromic Acid,** to the previously cocainized hypertrophic tissue proves highly successful. These powerful caustics must be applied only on small areas, and with proper precautions.

The part to be operated on should be dried by a probe carrying a pledget of absorbent wool. The application should then be made with a caustic carrier, or a flat probe, and care should be taken to ensure that a small quantity of the caustic lies in one side of the carrier only, otherwise it will spread over a considerable area. The probe carrying the caustic agent should be firmly held in contact with the part to be cauterized for ten or fifteen seconds. On removing it, the white eschar is plainly visible. It is well to spray the part with a little cocaine solution, or warm alkaline lotion, so as to wash off any remains of acid. The process generally requires to be repeated a few times, a sufficient interval being allowed between each for the superficial eschar to separate and come away, care being taken to prevent septic processes at the seat of injury by daily spraying and cleansing the part with mild antiseptic lotion, such as the following :—

℞ Sod. Bicarb.	grs. x	Tinct. Benzoin Co.		♏ x
Sod. Biborat.	grs. x	Glycerine		♏ xx
		Aq. ad		℥ij

This is followed by insufflation of a suitable powder, such as :—

℞ Ac. Boracic	gr. iij	Bismuthi Subcarb.	gr. ½
Sodii Chloridi	gr. ½	Morph. Acetat.	gr. ⅛

In the local treatment of *atrophic rhinitis*, the first essential point is the removal of the inspissated secretion. This to be effectual requires patience and care, but is readily accomplished by projecting a stream of a simple alkaline wash on to the crusts with some force. The spray should be directed by the eye with the nasal speculum *in situ* and with the aid of good illumination, and should be continued till every particle of secretion has been washed off. Similarly the post nasal douche must be used to get rid of all crusts in the naso-pharynx.

The best lotion is either simple warm water with a little bicarbonate of soda or sanitas-fluid added, or Dobell's solution.

The second point to consider is the best method of increasing the functional activity of the atrophied mucous membrane. In my own practice I have found that spraying the nasal passages with a 1 per cent. solution of iodic-hydrarg. gives satisfactory results. It is intensely stimulating, and a hypodermic injection of morphine must be given to allay the pain, which lasts an hour or two. Brysan Delevan applies the faradic current, and Freudenthal has recently found internal massage very successful (see "Nose and Throat, Massage in," p. 448). Gottstein's cotton wool plugging of the nares acts well in many cases, while Greville MacDonald has devised an ingenious plan of inducing increased vascularity of the mucous membrane by respiration through the nares partially occluded. To simply mention all of the very numerous methods would occupy too much of our space, and I have therefore merely indicated the main principles which are the basis of all.

[*Editorial.*

In order to avoid injury to the middle ear from nasal douching, Dr. Barr's[1] leading precautions are :—

(1,) The selection of the obstructed nostril (should this exist) for the injection.

(2,) To observe that the nozzle does not completely close the nostril.

(3,) Frequent interruption of the stream.

(4,) Avoidance of great force in syringing. Weber's douche should not have a greater fall than two feet.

(5,) The fluid should be at 80° to 90° Fh., and should contain an alkali, *e.g.*, 1 per cent. of soda or common salt, or, in cases of ozæna, an antiseptic.

(6,) During its administration, swallowing should be avoided by breathing through the mouth or protruding the tongue.

(7,) Blowing the nose and, if possible, sneezing should be avoided for about fifteen minutes after using the douche, and if fluid enters the ear repeated swallowing with closed nostrils should be practised.

(8,) After any operative treatment the douche or syringe should be avoided for a few days.

Dr. Wm. Robertson[2] regards the use of coarse nasal sprays as a much safer and equally efficient method of cleansing the nasal passages.

TREATMENT by sprays[3] has always maintained a prominent position. The various petroleum products—liquid vaseline, alboline, benzoniol,

glymol, lanolin, etc.—have crowded out of use many of the old astringent drugs, and beneficially. The most erroneous use ever made of sprays has been the spraying of vegetable and mineral astringents into the anterior nares for the cure of hypertrophic rhinitis. Solutions of one-half of the strength usually indicated in text-books would cause acute coryza, purulent disease of the accessory cavities, and otitis media. In simple and hypertrophic nasal catarrh no drugs with astringent action should be sprayed. Oily sprays are indicated in these conditions, with cocaine, iodoform, aristol, oil of pine, menthol, thymol, resorcin, etc. They stimulate according to the temperature and force of injection. Their prolonged use tends to increased dryness. They are specially indicated in cases where obstruction is not great and congestion is considerable, and may replace operation.

Watery astringent solutions, though harmful in the anterior nares when not far advanced in disease, are of service in atrophic rhinitis. **Peroxide of Hydrogen** (10 to 20 per cent.), **Mercuric Bichloride** (1 to 4000), **Boric Acid, Potassium Permanganate,** and **Carbolic Acid** often not only disinfect but stop purulent discharges; but they should always be employed with the uptip spray tube directed towards the back of the pharynx and post-nasal spray, and the patient should be taught how to use them. A mild alkaline, stimulating, disinfecting solution, used in this manner three times a day, is the best treatment yet devised. Mild astringents, 2 or 3 grains to the ounce, of **Silver, Copper, Zinc, Tannic Acid,** or **Iron** may be used in this manner with benefit.

Very mild solutions of **Cocaine**—less than 1 per cent.—are as useful astringents as can be employed, and, as a sedative, cocaine solutions have entirely supplanted opium, morphine, bromides, and aconite. The group of stimulating disinfectants, such as **Listerine, Thymol, Menthol, Eucalyptol, Oil of Wintergreen,** etc., cleanse and comfort dry, congested surfaces.

REFERENCES.—[1]Barr, "Lancet," Dec. 17, 1892; [2]Robertson, "Brit. Journ. of Laryngol.," Jan., 1893; [3]Rice, "Brit. Journ. of Laryngol.," May, 1893; "New York Med. Journ.," Jan. 21, 1893.

Synopsis.—(Vol. 1893, pp. 9, 401.) **Anemonin,** ¾ to 1½ grs., is useful in catarrhal affections of nose. Lederman cleanses passages with antiseptic spray, and applies ℞ Cocain, Menthol, āā gr. 20; Benzoinal, ʒij; M. ft. sol. This is useful in catarrhal rhinitis, or **Inhalation** of the fumes obtained by heating 15 grains powdered **Oxynaphthæic Acid**; or **Naphthaline** may be employed, *e.g.*—℞ Naphthaline (in impalpable powder) ʒvj, Boric Acid Pulv. ʒvj, Powdered Camphor 15 gr., Extract of Violets 15 gr., Essence of Roses, gtt. 20. Sig. Mix and use as snuff in coryza. Capitan aborts acute coryza by first insufflating ℞ Salol, gr. 15; Ac. Salicyl., gr. 3; Ac. Tann.,

gr. 2; Ac. Boric. Pulv., ʒj. This must only be used for half-a-day, and then a snuff of **Talc** and **Boric Acid** is substituted, or the following may be continuously used:—℞ Pulv. Talc, gr. 75; Antipyrin, gr. 15; Ac. Boric. Pulv., gr. 30; Ac. Salicyl. gr. 4. M. In an accidental attack, a weak solution of **Cocaine** gives great relief, and may be associated with a spray solution, *e.g.*, ℞ Menthol, Camphor, āā gr. 1 (rubbed to a fluid); Ol. Eucalyptic, ♏5; Parolein, ʒj; used with an ointment atomiser. In obstinate and recurring coryza, Bosworth advises that any quasi erectile tissues should be touched with fused **Chromic Acid**, after being shrunk with **Cocaine**, and dried with absorbent wool. For atropic rhinitis, Meijer uses a **Nitrate of Silver Spray**, 2%, increasing it daily until at the end of eight days a 25% solution is used, and continued for a week, when the treatment is slackened off. Bürkner recommends **Aristol Insufflations** alone, or combined with **Acetico-tartrate of Aluminium**, which he also uses alone. Bronner applies 10 to 50% solution of **Trichlor-acetic Acid** to turbinated bones and septum by means of cotton-wool on a probe; this is done under cocaine twice or thrice a week, an alkaline douche being used in the intervals, to which a little **Acetico-tartrate of Aluminium** may be added. He also advises a snuff of the last-named, together with, **Menthol, Camphor,** and **Boric Acid**, to which **Europhen** may be added. Chappell cleanses the nose with ½% solution **Creolin**, and then blows in **Europhen** in powder. Hunter Mackenzie has applied **Blistering Fluid**, thus keeping up self-irrigation of the nose. Before any irritant is applied, every crust must be cleared away by anterior and posterior douches and pledgets of cotton-wool on wire holders; a douche of **Soda Carbonate** and **Carbolic Acid, Sanitas, Listerine,** or **Permanganate of Potash** must be freely used night and morning. A stimulating antiseptic powder, such as **Compound Menthol Powder** (Menthol ʒij; Ammon. Chlor., ʒiij; Ac. Boracici ad ʒj) snuffed into the nose several times daily, and each nostril plugged on alternate nights with cotton-wool.

NOSE AND THROAT (Massage in Diseases of the).

P. Watson Williams, M.D., Lond.

We noted this new method of treating chronic inflammatory affections of the nose and throat in the last edition of the "Annual," quoting at length an extract from the "Journal of Laryngology" on Laker's and Braun's monographs.*

Freudenthal,[1] of New York, has developed the methods of Braun and Laker, obtaining very successful results from his modified methods of procedure, and speaks most enthusiastically of the effects of treatment. He refers to the different methods of applying massage locally to the throat previously advocated. Herzfeld had instruments constructed so as to work by the so-called American dental drill. As these instruments only make rotatory movements, the parts are kneaded instead of vibrated, and he adds that Garnault[2] believes that the hand alone should direct the probe, that this should alone be used, and all other devices rejected. But he connects his probe with the

* We much regret that the acknowledgment of the source of this extract was inadvertently omitted.—Ed.

electric current, thus applying electricity and massage at one and the same time. Freudenthal has devised an instrument which is practically a modification of Webb's electric dental mallet, and made for him by Meyrowitz. The mechanism of the electric vibrator is as follows : Two magnets occupy the interior of the box. Around these magnets coiled wire runs in manifold windings. Between these two magnets a rod is placed, destined to move backward and forward ; at its rear end an iron plate is fastened, and to this is attached a moveable metal plate. To the front end of the rod is screwed a detachable part, which I call the probe, the button of which is moveable. The index finger slips into a holder, which is attached to the neck of the instrument, the box resting between the thumb and the index finger of the operator. Two little screws at the lower part of the box are points of attachment for the electric wires. On the neck is placed a metal spring, which holds the ivory button. When this is pressed upon by the tip of the index finger, the current is closed, and the iron plate drawn forward by the magnet, which at the same moment has become electro-magnetic, and, as a matter of course, the rod holding the probe is drawn forward also. As soon as the iron plate has reached its foremost point, the contact is interrupted directly before the screw, and the iron plate falls in its original place, driven by spring power. The next instant the current closes, and the mechanism repeats itself over and over. The quantity and quality of the vibrations can be regulated. It makes one hundred and thirty-two oscillations per second, and to use the instrument neither practice nor dexterity is necessary.

Freudenthal vibrates the parts operated on from ten seconds upward ; but at the beginning, when the patient is not accustomed to the treatment, he only vibrates for five seconds, lengthening this time each visit. He endeavours to manipulate the entire surface of the nose or throat, or both, commencing with the pharynx, moving slowly downward and upward the posterior wall of it, then from side to side. Then the retro-pharynx is treated in the same way. He then touches in the nose those parts directly in front of him, *i.e.*, often hypertrophies of the middle and lower turbinated body, then come the parts lying sideways, *i.e.*, the septum, alæ nasi, and the other turbinated bodies. A 5 to 10 per cent. solution of cocaine is applied to the parts before vibrating.

Freudenthal has treated many cases of chronic hypertrophic rhinitis with success, and also cases of rhinitis sicca, pharyngitis sicca ; but, though he has not himself treated any cases of ozæna by his method, he refers to sixty-four cases treated by Demme in Prof.

B. Fränkel's clinic. Ten of these were considered to be cured in a most perfect manner, while of the remainder each and every one was improved.

As regards the neuroses of the nose, Freudenthal has treated six cases of hay fever with universal improvement and one cure. But it is only fair to state that the treatment was commenced either just before or during the attacks. Without falling into the error of regarding this new method as a panacea for nose and throat affections, there is no doubt that Freudenthal's experience justifies his contention that it is a very valuable aid to the successful treatment of the conditions in which he has tried it.

REFERENCES.—[1] "New York Med. Rec.," July, 22, 1893; [2] Le Massage vibratoire et électrique des muqueses du nez, du pharynx et du larynx: "La Sem. Méd.," p. 354, 1892.

OBESITY.

For the treatment of obesity in a person whose heart and arteries are sound, Dr. Dujardin-Beaumetz[1] recommends the following method: Every morning a general body-sponging with hot **Eau de Cologne** and water, followed by dry rubbing and massage. A tumblerful of purgative water is then administered. At the end of each meal a dessertspoonful of the following solution is swallowed: 15 grammes of **Iodide of Potassium** and 250 grammes of water. The undermentioned regimen is to be rigorously observed: First meal at 8 a.m., a cup of chocolate and 20 grammes of bread. Second meal, 2 eggs or 100 grammes of meat; 100 grammes of green vegetables or salad; 15 grammes of cheese, a little fruit, 50 grammes of bread, a glass and a half of liquid (a light white wine with Vichy water). Third meal at 7 p.m., no soup, 100 grammes of meat, 100 grammes of green vegetables or salad, 15 grammes of cheese, fruit, 50 grammes of bread, a glass and a half of liquid (white wine with Vichy water). No drinking between meals, no tea, coffee, cognac or other alcoholic beverage. Plenty of exercise in the open air.

Life Insurance.—Dr. Kirsch[2] has studied the question of obesity in connection with life insurance. Ordinary obesity is not a reason for refusing a policy. If obesity is hereditary, if in the family history there has been diabetes mellitus or cerebral hæmorrhage, the medical expert should be cautious. If obesity is extreme, the heart and urine should be carefully examined. Irregular pulse and bradycardia are bad signs. When intemperance coincides with obesity the probability of long life is small.

REFERENCE.—[1] "Lancet"; [2] "Med. Record," July 15, 1893.

ŒSOPHAGUS. (See also "Stomach, Surgery of.")

Auscultation by means of the Œsophagus.—Dr Hoffmann,[1] of Düsseldorf, uses a soft stomach tube graduated in centimètres, and having at its upper end an ear plate cemented to a glass tube. This he introduces into the stomach, regulating the position of the nozzle by its distance from the teeth. At first rumbling or gurgling sounds are heard, due to displacement of fluid in the stomach by gastric or respiratory movements. Withdrawing the tube a short distance, but keeping its point still in the stomach (about 45 centimètres from the teeth), the heart sounds are heard distinctly, especially if the person under examination holds his breath. The respiratory murmurs in the larynx and trachea are also plainly audible. When the tube is at a depth of 35 to 30 centimètres the heart sounds are most distinct, the systole being marked by an accentuated double beat, the diastole not being so clear. Withdrawing the tube for another 5 centimetres, the sounds become softer, the double sound is lost, and still higher up the breath sounds only are heard. The following conclusions are justified: (1,) That the method will probably be of most assistance in determining the site of murmurs of the left heart; (2,) In cases of aortic aneurism its employment is dangerous; (3,) That functional murmurs are better heard by the ordinary method; (4,) That its value for diagnostic purposes cannot be accurately determined until it has been more extensively practised.

Dr. Richardson[2] has recommended this method for detection of commencing œsophageal stricture, and suggested its use in the diagnosis of aneurism, heart disease, and gastric pathological conditions.

Stricture of Œsophagus.—Willy Meyer[3] concludes that:—

(1,) After swallowing acids, etc., sounding should be begun as soon as it can be made out that the internal wounds have healed, certainly not later than two to four weeks after the accident. This prophylactic treatment has to be continued at regular intervals for a long period—if necessary, for life. Gastrostomy can be primarily performed for this purpose (Maydl, von Hacker).

(2,) Impermeable stricture should be operated on as early as possible. The forcible use of the sound has often produced false passages.

(3,) External œsophagotomy is specially useful in children, and is always indicated if, besides an impermeable stricture in the lower part of the œsophagus, a second (or third) is present on a level with or just below the cricord cartilage.

(4,) In grown patients and those who are emaciated and require immediate and forcible nutrition, primary gastrostomy, with subsequent retrograde sounding, may be preferable.

(5,) If the stricture has been successfully stretched, and if the same sound which passed from the wound in the neck can also be pushed down through the mouth, the fistula has to be closed.

(6,) Where the stricture rapidly contracts after repeated dilatation, or the space obtained is very limited, internal œsophagotomy is indicated.

(7,) Internal œsophagotomy is specially dangerous from the difficulty attending antisepsis.

(8,) Gastrotomy combined with external œsophagotomy admits of irrigation and temporary tamponing above and below the site of operation.

(9,) The combined operation allows an internal urethrotome to be passed through the stricture from the neck, while a guide passed from the gastric fistula is useful in assisting the retrograde section.

Dr. Robert Abbé[4] considers that the operation for impermeable or very tight œsophageal stricture is best undertaken as follows · Gastrostomy is done by the oblique incision along the margin of the costal cartilages. Digital examination of the œsophageal orifice is made, and a small conical gum elastic bougie guided into it by the finger. The smallest bougie is then to be made to carry a heavy-braided ligature silk from the stomach to the mouth. A larger bougie is now passed from the stomach alongside the string, and pressed tightly into the stricture so as to stretch it. The string is now drawn upward by the fingers introduced well back in the mouth, and the bougie will be felt to advance at once as the string wears away the tense stricture. Larger bougies are now pressed in and the string see-sawed back and forth. When the largest size has been attained a corresponding rubber tube is drawn up the œsophagus past the point of stricture, its lower end remaining outside the stomach wound. A smaller tube is introduced into the stomach for nourishment. The large tube may be removed the second or third day, and dilating bougies introduced from the mouth after the fourth day.

REFERENCES.—[1]Hoffmann, "Centralb. f. clin. Méd.," Dec. 3, 1892 ; [2]"Lancet," Nov. 5, 1892 ; [3]Meyer, "New York Med. Jour.," Nov. 19, 1892 ; [4]Abbé, "Med. Record," Feb. 25, 1893.

OPHTHALMIA (Electric). (See "Eye.")

OPHTHALMIA NEONATORUM.

Synopsis.—(Vol. 1893, p. 406.) Kaltenbach uses **Distilled Water** only for prophylaxis. Schneideman orders the removal of pus hourly in the height of the attack by flooding the sac with **Mercury Bichloride**, 1 to 2000, and a solution of **Nitrate of Silver**, 10, 20, or even 40 grs. to ℥j. is applied once or twice in twenty-four hours. No subsequent washing with sodium chloride is necessary.

ORCHITIS.

M. Thiersy has treated for a long time acute orchitis by pulverisations of a solution of **Phenic Acid** on the inflamed organ. He considers it superior to emollient application, and not only is it free from all danger, but it materially abridges the duration of the treatment.

The apparatus is a steam spray to be placed on a chair close to the patient. The solution should not exceed 1 in 50 or 2 per cent., and the duration should not last more than one quarter of an hour twice a day, otherwise the skin would exfoliate. In three or four days all pain has subsided, and the patient can leave his bed provided that he wears a suspensory bandage.

REFERENCE.—"Med Press and Circ.," Sept. 27, 1893.

ORTHOPÆDICS. (See also "Club Foot" and "Joints.") *John Ridlon, M.D., Chicago.* *Robert Jones, F.R.C.S., E.*

Plaster of Paris in Orthopædics.—Dr. A. J. Steele, prefers Holstein butter-cloths to gauze for the making of plaster bandages. This is cut at the book-binders, or with a cobbler's knife on a cutting board. The bandages are rubbed with plaster, and rolled by hand in preference to using any of the various machines. Warm salted water is used for wetting the bandages to hasten the hardening. A shirt, a stocking, a flannel bandage, or sheet-cotton, covers the skin before the bandage is applied. In removing splints a groove is cut with a pocket-knife, and then the finger, or a specially constructed tool, is inserted between the patient and the splint, and upon this one may cut directly down. In removing old and very hard splints a double-bladed saw, shaped somewhat like Hey's saw, is used.

REFERENCES.—"Med. Record," Oct. 8, 1892; "Trans. Amer. Orth. Assoc.," vol. v, 1892.

OSTEITIS DEFORMANS. *John Ridlon, M.D., Chicago.* *Robert Jones, F.R.C.S., E.*

Dr. Henry Ling Taylor, says that the disease is a chronic inflammation of advanced life, affecting the long bones, spine, cranium, and pelvis, and characterized by pain, hypertrophy, and softening, so that the bones which sustain weight become curved. The disease does not appear to be hereditary, and no connection is traceable between it and syphilis, tuberculosis, gout, or rheumatism. The onset of the disease is insidious, and the progress slow. An aching in the affected bones is usually present, but may be absent. The bone gradually becomes thickened, and in the case of a long bone, elongated. At the same time it becomes softer, and if required to sustain weight it becomes bent.

As to treatment, nothing has been found to arrest or modify the disease. Two cases were reported in detail.

REFERENCE.—"Med. Record," Jan. 21, 1893.

OSTEOMALACIA.

Steinberg, in an exhaustive paper on the treatment of osteomalacia, calls attention to the value of **Phosphorus.** From the results of seven reported cases and observations on four under his own care, he considers it in the highest degree possible that we have in phosphorus, in sufficient doses administered for months continuously, a direct and definite remedy for osteomalacia. For individuals in early life and still capable of conception, with extreme pelvic narrowing already present, treatment by castration is indicated, because laparotomy to permit of Cæsarian section will very often be found unavoidable. In all other forms an energetic treatment by phosphorus, begun early and carried out patiently and continuously, is strongly to be recommended. It is very desirable that an early diagnosis of osteomalacia should be made; and the possibility of mistaking it for disease of the nervous system or of the joints, and for various affections of the bones, should be borne in mind.

REFERENCE.—"Zeitschrift für klin. Medicin.," vol. xxi., No. 3, 1893.

OTALGIA.

Synopsis.—(Vol. 1893, p. 43.) ℞ Phenate of Cocaine, gr. 1½. Sig.—Dissolve in 1½ drachms of alcohol, and add equal quantity of distilled water. 10 to 30 minims may be dropped into the ear at a time.

OVARITIS.

M. Winternitz has just published his method of treating women who suffer from ovaritis. Rest in bed is the first thing insisted upon, and as these patients are generally constipated, he prescribes a teaspoonful of the following mixture at bed-time in a glass of water :—

℞ Sulphate of Soda	℥iv	Sugar	℥v
Sulphur	℥j	Ess. of Peppermint	q.s.

The abdomen is rubbed with ointment here mentioned: Ichthyol, Lanoline, āā.

To this external treatment is added vaginal injections of warm salt water, and twice daily the os is scarified.

REFERENCE.—"Med. Press and Circ.," Sept. 27, 1893.

OZÆNA. (See "Rhinitis.")

PANCREAS (Surgery of). *A. W. Mayo Robson, F.R.C.S.*

Mr. Jordan Lloyd[1] has drawn attention to the relationship which exists between injuries of the pancreas and accumulation of fluid in the lesser peritoneal cavity, and he remarks that in the recorded cases

of pancreatic cysts nearly all have been preceded by injury. Mr. Lloyd's paper is illustrated by diagrams of the form of tumour which he says he has proved to be due to effusion into the lesser peritoneal cavity, the result of injury to the pancreas. Of these diagrams we reproduce one, and by its side is a diagram of a cyst of the pancreas (*Figs.* 50, 51).

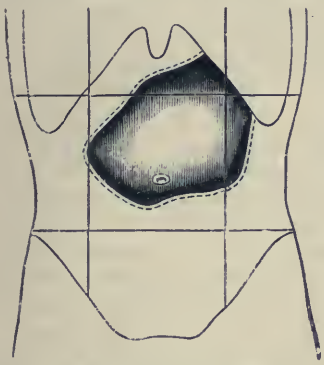


Fig. 50.—Mr. Lloyd's case of effusion into the lesser peritoneal cavity.

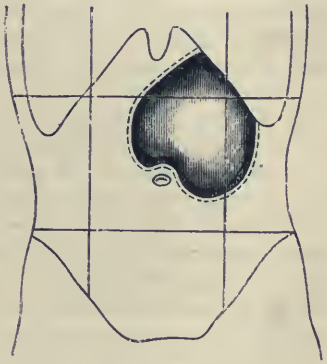


Fig. 51.—Cyst of Pancreas (after Senn).

Mr. Paul Swain[2] reports a case which would seem to come under the class of cases described by Mr. Jordan Lloyd; he explains it on the hypothesis of the bursting of a retention cyst of the pancreas into the lesser peritoneal cavity. The case recovered under drainage.

During the past year I operated on a case of general peritonitis in which I found the lesser peritoneal sac filled with dark fluid which I believed to be the result of the rupture of a pancreatic cyst, but there was also extensive effusion into the general peritoneal cavity, dependent on a secondary rupture through the omentum just below the stomach: in this case there was no definite history of injury.

Hæmorrhage into the pancreas is yet an obscure affection. Kœtochan[3] believes that in a case he reported, there was a fatty degeneration of the pancreas. Nimier[4] describes two forms; one, intrapancreatic apoplexy with infiltration of the surrounding cellular tissue, the other accompanied by effusion of blood into the lesser peritoneal cavity: he says that the blood is usually derived from the pancreatic-duodenal artery or from the vascular network in front of the gland, or from the gland structure itself. Out of five cases which he collected, as having been treated by drainage, four recovered.

Abscess of the Pancreas.—Dr. Whitton in the "Australian Medical

Gazette", for 1892, describes a case of abscess of the pancreas, the result of injury, which burst into the duodenum and ended fatally.

Scirrhus of the Pancreas.—The following are extracts from a paper of Dr. C. Steele's in the "Lancet," for July 15, 1893. "It is an acknowledged fact that but few cases of scirrhus affecting the pancreas are diagnosed during life, but are considered to be affections of the liver. As a matter of prognosis it may be a question of little moment, but as offering a means of relief by treatment I believe it to be of real value. The diagnosis is decidedly difficult and, especially if much tympanites is present, often cannot be cleared up until the fatal termination is approaching.

"In my experience scirrhous deposits in the liver do not affect the neighbourhood of the gall-bladder, and even when located close to it only gradually, and then not absolutely, obstruct it, whilst in scirrhus of the pancreas the pressure of the growth does entirely obstruct the common duct as if the thumb were pressed on an indiarubber tube; consequently, when a case is under consideration, if jaundice has progressed steadily to the extreme degree no bile is passed by stool and the urine is saturated with it, and neither gall-stones nor other cause can be defined; even though tympanites may prevent exact examination one may safely infer that the disease lies in the pancreas; and when one is able to map out and draw apart the edges of the organs one can settle the question during life. The intense distress—the feeling of illness, nausea, total anorexia, the itching of the skin, etc.—is so characteristic that even whilst one knows that the patient cannot live long a means of relieving the misery and prolonging life for a little time may be suggested by cutting down to the gall-bladder, fixing it in the skin, opening it, and leaving it to empty itself and drain the system of much accumulated bile by a permanent sinus."

The operation suggested in Dr. Steele's paper has been performed a great number of times by Dr. Terrier, myself and others. I should like to point out that in these cases the immediate prognosis even of so slight an operation is not very favourable on account of the great tendency to hæmorrhage. In two such cases I have known the bleeding from suture punctures to persist for many days and to fail to yield to treatment. I have never known hæmorrhage of this kind to occur in jaundice from gall stones; so that the peculiarity must lie either in the presence of malignant disease or in the interference with the proper functions of the pancreas.

REFERENCES.—[1]"Brit. Med. Journ.," Nov. 12, 1892; [2]Ibid., March 4, 1893; [3]"Centralbl. f. Allgem. Path.," June 2, 1893; [4]"Rev. de Chir.," Aug., 1893.

PARALYSIS AGITANS. *Græme M. Hammond, M.D., New York.*

Charcot[1] reports eight cases of paralysis agitans which were greatly relieved by rapid jolting of the body. A chair was arranged with a simple mechanism which, when put in motion, produced jolting not unlike that experienced in a railroad car. In all the cases after the fifth or sixth trial there was relief from the pains which accompany the disease, the patient felt lighter, less stiff, and was able to walk better. The improvement does not last longer than twenty-four hours, so that the treatment has to be repeated daily. Each *séance* lasted from fifteen to twenty minutes.

Huchard[2] employs the subcutaneous injection of from 2 to 3 decimilligrammes of **Duboisine** three times a day. In so short a time as fifteen minutes after an injection, the trembling of the hands may be so moderate as to enable the patient to write more legibly.

Grasset and Sacaze[3] claim that a notable amelioration of the symptoms, and improvement in the patient's general condition, follow the use of **Sodium Borate,** beginning with 4 grains four times a day, and gradually increasing the dose to two or three times as much.

REFERENCES.—[1] "Pract.," Nov., 1892; [2] "New York Med. Journ.," April 15, 1893; [3] Ibid.

Synopsis.—(Vol. 1893, p. 409.) Moretti uses hypodermic injections of **Atropine,** from $\frac{1}{100}$ to $\frac{1}{50}$ gr., repeated once in twenty-four hours. It can be apparently repeated indefinitely.

PEMPHIGUS. *T. Colcott Fox, M.B.*

J. F. Payne thinks that in children or young persons pemphigus rarely fails to disappear under the use of sufficient doses of **Liquor Arsenicalis.** After middle life the remedy certainly loses some of its efficacy, and in aged people, seventy years old or upwards, it seems to have very little effect. The acute febrile stage at any time of life is also less influenced by arsenic than is the chronic stage. In senile and acute stages he relies more on **Quinine,** full doses of stimulants, careful dieting, and in general, everything that tends to keep the patient alive. **Perchloride of Iron** has been strongly recommended in chronic cases, and **Opium** in acute ones.

Local treatment is palliative. The first indication, viz., the protection of excoriated surfaces and the relief of the painful tenderness, is met by the use of such applications as **Zinc Ointment** or the zinc gelatine of Pick. To these preparations a very small quantity of carbolic acid or other non-poisonous antiseptic may be added, which meets the second indication, viz., to prevent decomposition in the discharges of serum, etc. It is a good plan to sponge the skin generally with a weak coal

tar solution (ʒj liquor carbonis, ʒss glycerine, water Hj). The patient should be on a water bed, but baths are often not very comforting.

REFERENCE.—J. F. Payne, "Lancet," Aug. 19, 1893.

PERTUSSIS. *Henry Dwight Chapin, M.D., New York.*

Dr. Henry Koplik[1] calls attention to the severe strain the heart is subjected to in many cases of pertussis. To counteract this, the use of **Digitalis** is indicated, with the ordinary remedies, as soon as the first indications of this strain are apparent. Swellings about the face and eyes are important symptoms to note. The tincture of digitalis, ♏ i for every year up to the second year and then ♏ ½ additional, as indicated every two or three hours, is a great support to the heart muscle as a tonic; the pulse is reduced and not so compressible. Small doses frequently repeated answer the purpose as well as larger ones.

Dr. J. P. C. Griffith[2] states that the methods of local treatment of pertussis, which have the strongest testimony in their favour, are inhalations of volatilized **Carbolic Acid**, insufflations, either nasal or laryngeal, of **Quinine**, **Boric Acid, Benzoin,** or **Resorcin,** and applications of these substances, and especially of resorcin, in spray or on a brush to the fauces and larynx.

Dr. S. B. Straley[3] recommends the tincture of **Thymus Serpyllum**, as follows: (1,) Thymus serpyllum is a specific for pertussis; (2,) It acts in any stage of the disease; (3,) It also is a nerve sedative and gastric stimulant; (4,) It is necessary to use the green plant; (5,) It is perfectly harmless in doses as large as a teaspoonful of the tincture for a child of eight years (usual dose ♏ xx. to ♏ xxx. of green tincture); (6,) The action is fully established in twenty-four hours, and completed in five days; (7,) Indications are that there will be no recurrence subsequently, at least not more often than in cases which run the full course.

Dr. A. Bergeon[4] treats pertussis successfully with rectal injections of **Carbon Dioxide.** Immediately after an access of the malady, he administers, in the form of a rectal injection, about 2 litres of carbon dioxide mixed with a few centigrammes only of pyridin. The child can take food after the operation, since this causes no disturbances of the digestive tract. The injections can be repeated after each access of the cough, and even at night, with intervals of four hours.

REFERENCES.—[1]"Archiv. Pæd.," Oct., 1893; [2]Ibid., Oct., 1893; [3]"Times and Register," 1893, xxvi.; [4]"Lyon Médical," June 25, 1893. [*Editorial.*

Dr. Liebermeister[1] recommends the following treatment in whooping cough:—

(1,) *During the Catarrhal period.*—Rest in bed and the adminis-

tration every hour, or every two hours, of **Sulphurated Antimony,** gr. ⅓.

(2,) *In the Convulsive stage.*—Inhalation of a solution of **Carbolate of Soda, Bromide of Potash,** or **Salicylate of Soda;** the fits of coughing should be relieved by narcotics, anæsthetics, or inhalations of 10—20 drops on a pocket-handkerchief of the following mixture :—

℞ Sulphuric Ether	4 parts	Essence of Turpentine	1 part

He also prescribes **Quinine,** and during the day 2 to 6 teaspoonfuls of the following draught :—

℞ Extract of Belladonna gr. viij	⅓	Antimoniated Water	℥ijss
Syrup of Ipecacuanha	℥iv	Distilled Water	℥iv ℥vjss

(3,) Change of air, and removal to the country.

Guttman[2] has obtained good results from the insufflation of **Sozoiodol-sodium.** 3 grains were blown into each nostril once a day. Considerable amelioration of the symptoms followed, and, in some of the cases, the course of the affection appeared to be materially shortened.

The following prescription may prove useful for the cough of pertussis[3] :—

℞ Ext. Belladonnæ	gr. j	Syrup. Zingiberis	
Aluminis	℥ss	Syrup. Acaciæ	
		Aquæ	āā f℥j

M. Sig.—A teaspoonful thrice daily, or when the cough is distressing.

REFERENCES.—[1] Liebermeister, "Le Progrès Médicale," May 27, 1893; [2] Guttman, "Therap. Monat.," Jan., 1893; [3] "Med. Age," Sept. 11, 1893 ("Practitioner").

Synopsis.—(Vol. 1893, pp. 32, 36, 38, 423.) Tincture **Ledum Palustre,** 5 to 20 minims. **Ouabain,** $\frac{1}{100}$ gr. every three hours, in solution. Ullmann discourages use of bromoform and sulphurous acid. Smith found that antipyrin did not influence the course of the complaint. Liebermeister gave tannate of quinine as a specific, but this is not certain. Gassicourt advises **Antisepsis** and **Isolation.** In the catarrhal stage, **Ipecacuanha** in infusion, **Benzoate of Soda,** or **Carbonate of Potash,** are useful: ℞ Carbonate Potassa, 3 parts; White Sugar, 10 parts; Water, 100 parts; Cochineal (to colour), 1 part. M. Sig.- Teaspoonful hourly or two hours. Or, ℞ Yellow Sulph. of Antimony, gr. ⅓; Mucil. Acacia, ℥v; Distilled Water, ℥xijss.; Syr., Simp., ℥v. M. Sig.—Teaspoonful hourly. Spray may be used to thin secretion. For cough, **Morphine** is used in Germany and Austria, but in France, **Belladonna, Bromides,** and **Chloral,** *e.g.*, ℞ Pot. Brom., 2 to 3 parts; Syr. Belladonna, 30 parts; Aq. 120 parts. M. Sig.—Teaspoonful three or four times a day. A few drops **Essence of Thyme** may be added. Sevestre uses **Tincture of Drosera.** Sergi and Boicesco use:—℞ Resorcin, Antipyrin, āā 1 part; Syr. of Pine Tree, 30 parts; Solution of Gum, 100 parts. M. Sig.—3 to 4 tablespoonfuls daily, and increase gradually. D'Espine objects to antipyrin as weakening, and tending to pulmonary complications. Some brush the throat with **Cocaine,** 1 in 20 or 1 in 30. Prof. Hirschsprung uses **Musk** in infants. **Bromoform,** 1 to 5 drops in alcohol, three times a day. **Naphthaline,** 15

to 20 grammes slowly volatilized. **Essence of Cypress-Leaves** and **Benzine** have all been proposed. Johnson recommends **Thymus Vulgaris Infusion**, teaspoonful to a dessertspoonful, eight to twelve times daily. Moncorvo applies a 10% sterilized solution of **Resorcin**, applying it with a brush to the mucous membrane, and using for the first few brushings a preliminary application of 5 to 10% **Cocaine** solution if required.

PHARYNGO-MYCOSIS.

Dr. Garel has observed twenty-nine cases of this disorder, and is of opinion that a catarrhal condition of the pharyngo-nasal mucous membrane is an important factor in its development. Seven patients were subject to recurring tonsillitis. In eleven cases there were nasal lesions accompanied with pharyngeal catarrh. Heredity was of no importance.

The parasite is situated in order of frequency upon the tonsils, the base of the tongue, the glosso-epiglottic fossettes, the posterior and lateral walls of the pharynx, the faucial pillars, the naso-pharyngeal vault, and the nasal fossæ.

The condition is present under three forms: (1,) Small points, resembling millet seeds; (2,) Mushroom-like tufts, resembling the *barbe du Capuchin*; (3,) Yellow plaques, resembling diphtheritic patches.

The affection has a slow evolution, can disappear spontaneously, but tends to recur. It is necessary to distinguish it from lacunar tonsillitis, in which the soft and friable points are readily raised with a probe; from tonsillar concretions, which can be easily enucleated; from pultaceous angina, which gives rise to general symptoms; from herpetic angina, which invades the arch of the palate; from diphtheria, where cultivations establish the diagnosis.

In two cases Dr. Wagnier has employed **Anhydrous Chromic Acid**, fused on a probe, and touching the mycotic points lightly two or three times at eight days' interval. Both patients were rapidly cured.

Dr. Moure obtained the best results from the use of **Iodo-Iodated Zinc Solution**, as recommended by Nabias and Sabrazès.

Dr. Natier cured a case with a mycotic patch the size of a fifty-centime piece by using the **Galvano-cautery** and **Chloride of Zinc.**

REFERENCE.—"Brit. Journ. of Laryngol.," June, 1893.

PHARYNX (Diseases of).

Enlarged Pharyngeal Tonsil.—In treating this condition, too much reliance ought not to be placed on any form of instrument, be it ring knife or cutting forceps. No instrument, not even the modified Gottstein's curette, can remove the masses of the growth often found protruding into the posterior choanæ, filling these up to total obstruc-

tion in severe cases. As well for these as for the Eustachian synechiæ the finger is the instrument, and the only one on which complete reliance can be placed for their effective removal and destruction. The proper treatment for the remaining general thickening of the mucosa of the naso-pharynx is swabbing out of the space with **Lugol's Solution** :—

℞ Iodine Bic.	gr. 6	Ol. Menth. Pip.	♏ 12
Iodide of Potass	gr. 12	Glycerine	℥j

Sig.—Apply with a mop of cotton wool.

Granular Pharyngitis.—It is all-important to recognize the naso-pharyngeal lesion which, in the vast majority of cases, is the primary factor. The importance of lateral pharyngitis in producing chronic Eustachian catarrh has been referred to by Hovell. The infiltrated lateral band of the disease extends up to the lower lip of the ostium, and often becomes attached to it and clogs its functional activity; various local applications are recommended. For slighter forms of the disease **Trichloracetic Acid**, in strong solution, applied on a probe mounted with cotton wool, offers a comparatively insevere and painless method of treatment, especially for centrally situated follicles. The cautery—the most effectual destroyer, properly reserved for lateral pharyngitis—must not be too energetically applied, so as to avoid injuring the underlying muscles, since injury to these, seeing that they open the ostia tubæ, may cause harm.

Atrophic Pharyngitis.—It will be generally admitted that in atrophic pharyngitis, as in the case of granular pharynx, the diseased condition extends from its seat in the naso-pharynx down into the oro-pharynx. The rhinoscopic mirror generally discovers the characteristic green, bad-smelling crusts in the post-nasum. The most successful treatment is by long-continued swabbing out of the post nasum and oro-pharynx with Lugol's solution.

Erysipelas of the Pharynx.—The indications are for **Ice, Cocaine,** and **Sublimate Sprays.**

Retro-pharyngeal Abscess.—These are no doubt connected with the presence of the retro-pharyngeal glands found in early childhood. The general tendency is to follow Prof. Chiene's plan for opening the chronic retro-pharyngeal abscesses depending on spinal caries, viz., by external incision along the posterior border of the sterno-mastoid muscle.

Tubercular Ulceration.—The most favourable condition for cure is where superficial ulceration, with little induration of the sub-mucous tissue, present. The **Galvano-cautery** and **Lactic Acid** are the favourite remedies, requiring great perseverance in their application.

As to diagnosis, epithelial cancer, syphilis and lupus, must be borne in mind.

REFERENCE.—Robertson, "Brit. Journ. of Laryngol.," Jan., 1893.

Synopsis.—(Vol. 1893, p. 425.) In chronic pharyngitis, the following is much used: ℞ Ac. Carbol. Cryst., Camphor, āā gr. 15; Glycerine, Aq. Dist., āā ʒij. Painted on three times a day. "Goddard's astringent gargle": ℞ Fol. Rosæ Rub., 2 dr.; Aq. Bullientis, 5 oz.; Ac. Sulphurici dil. ½ dr. Infuse, strain when cold, and add—℞ Mel. depurati, 1 oz.; Ac. Tannici, 2 scr.; Aluminis, 2 dr.; Sp. Vin. Rect., Ac. Rosæ, āā 6 oz. M. Another gargle as follows: ℞ Red Rose Petals, 2 dr.; Pomegranate Rind, 4 dr.; Boiling Water, 6 oz. Infuse, strain and add—℞ Alum, 2 dr.; Clarified Honey, 1 oz. Mix, filter. For erysipelas of pharynx, Havilland Hall, keeps patients in a temperature of 66%, applying an ice collar to neck, with pellets of ice to suck. It seen early, and only the pharynx is attacked, **Tinc. Ferri Perchlor.**, 20 min., and the same quantity of **Glycerine** may be given every three or four hours; but if any spasmodic dyspnœa threaten, 10 to 28 grs. **Pot. Bromide** should be substituted. If laryngeal stenosis increase, paint with 20 per cent. solution **Cocaine Hydrochlorate**, and if no improvement follow in half-an-hour, **Free Scarification** with Mackenzie's guarded lancet is best. **Sinapisms** to throat, chest, back and shoulder blades, may be used to bring erysipelas to surface. Helbing advocates similar treatment in phlegmonous pharyngitis, applying 3 or 4 drops **Croton Oil** over skin between angle of jaw and larynx, but the resulting eczema is a drawback. Ryland uses **Blisters**. Gibbs and Durham advise applying strong solution (80 grs. to ʒj) **Nitrate of Silver** to mucous surfaces before œdema begins. A saturated solution of **Iodoform** has also been found of service. Browne uses **Salicylate of Sodium**, when temperature is high, with delirium and a tendency to cerebral complications; and, still better, **Ammonium Salicylate**, 20 grains every three hours. **Tracheotomy** may be required.

PHTHISIS (Antiseptics in the Treatment of Tubercular Phthisis).

R. Shingleton Smith, M.D., B.Sc., F.R.C.P.

The use of antiseptics implies the existence of a virus, and suggests the idea of contagion.

It is no longer necessary to give proofs of the existence of a *phthisical contagion.* The evidence on which Dr. William Budd,[1] of Clifton, announced his belief that phthisis would be found to be contagious was convincing to his mind, and led him to the conviction "that the deposits of tuberculous matter are of the nature of an eruption, and bear the same relation to the disease phthisis as the yellow matter of typhoid fever, for instance, bears to typhoid fever." The experimental evidence, commenced by Villemin in 1865, and carried on by Simon, Wilson Fox, and others, have culminated in the now well-known, and universally admitted, demonstration by Koch of the actual virus, by means of which the disease is transmitted, and without which it does not exist. The clinical evidence of contagion has always been weaker than the experimental, and has accounted for this fact, that medical

men have only reluctantly accepted the idea that phthisis should be classed amongst the diseases which are undoubtedly and demonstrably contagious. Dr. Budd had no such hesitation, and he boldly announced his belief "that by the destruction of tubercular matter, on its issue from the body, by means of proper chemicals, or otherwise, seconded by good sanitary conditions, there is reason to hope that we may eventually, and possibly at no very distant date, rid ourselves entirely of this fatal scourge." We may well ask how is it that these views, expressed in 1867, have not yet been more abundantly verified? It would appear that even yet, in spite of the constantly repeated experimental demonstrations, and of the overwhelming mass of clinical evidence in animals and in man, we have not yet generally admitted the truth, and have not been prepared to carry out the logical methods of treatment which necessarily would follow from an ungrudging and hearty acceptance of the truths which have been demonstrated.

The limitations of the contagion are such that few of those who may be exposed to it are found to be favourable soil; if it were otherwise, if the contagion of phthisis were necessarily fatal, if no organism could escape it, then humanity itself would have been long since destroyed."[2]

The fact that a contagious disease like phthisis so rarely manifests the ordinary clinical phenomenon of contagion, has given us a new view of contagion itself, and has broken down the barrier which formerly existed between contagion and infection; it is of interest to note that the contagium vivum which is transmitted was first demonstrated in a disease which was not commonly looked upon as contagious or infectious, and that the demonstration of the living contagium is even now the principal evidence on which the idea of the contagiousness of phthisis rests. The presence of the poison, its introduction and discharge from the body, and its behaviour whilst there, are the leading features to be borne in mind with regard to the presence, the origin, distribution, and cure of phthisis.

The tubercle bacillus has become the one fixed fact in the pathology of phthisis, the acknowledged centre about which all the phenomena revolve: the study of the etiology of tuberculosis has become that of the life history of the bacillus; the symptomatology becomes the effects of the bacillus in the body; the definite diagnosis becomes the recognition of the bacillus in the discharges or the tissues, and the therapeutics become resolved into the use of agents which destroy or prevent its growth. "Other views than these are now looked upon as obsolete lumber."[3]

On the other hand, the questions relating to susceptibility and the

soil have been much discussed. "The least impartial must confess that tuberculosis is certainly not contagious for all men alike, but, broadly speaking, only to those who, as we express it, have a predisposition towards the disease. We know of men who for years have exposed themselves to the danger of infection, have inhaled the tubercle bacilli, have wounded themselves with tubercular matter, and yet never acquired the disease. This is a fact which is almost universally acknowledged. Tuberculosis is contagious under special conditions only, a special predisposition is acquired, unless it has been inherited."[4]

Dr. Chaplin[5] has formulated the conclusion that "the prevention of phthisis could only be effected by the strictest measures, such as notification, segregation, and interdiction of marriage;" but on the other hand, Dr. Goodhart comes to an entirely different conclusion, and negatives these more rigorous measures.

But the almost universal distribution of the bacillus of tubercle, the probability of reinfection of the individual, and the accumulating evidence that it possesses a spore form in which it may remain active for a long time outside the animal body, and has great powers of resistance, render it reasonable that we should for practical purposes neglect contagion as a means of diffusing the infection. "We cannot hope to destroy the ectanthropic sources of infection, since they are too widely distributed, nor can we destroy the affected individuals, since such destruction must always be incomplete, unavailing, even if free from other objections. We must rely chiefly on the removal of the special predisposition, counteract the causes responsible for such predisposition, and at the same time destroy as far as possible all ectanthropic sources of infection."[6] The discovery of an efficient and universal parasiticide for the treatment of tubercular phthisis would as yet appear to be a Utopian quest. We have not reached the therapeutic ideal described by Prof. Debove in 1884, consisting in the treatment of phthisis as one treats scabies or ringworm, viz., by the aid of a parasiticide. Many attempts in this direction have been made, but they have for the most part been received by the profession with incredulous criticism, or with half-hearted acceptance. The administration of numerous internal antiseptics, the subcutaneous and intra-pulmonary injection of antiseptic fluids, the inhalation of antiseptic vapours, the injection of gases and fluids into the rectum in the hope of rapid absorption through the portal system and conveyance thence to the lungs; these methods of deluging the body as a whole, and the lungs in particular, with antiseptic agents, which may diminish the activity and prevent the reproduction of micro-organisms

already established within the body, have given results more or less satisfactory to the enthusiastic promoters of any particular method, but which do not appear to warrant the adoption of any of them as of universal application.

Of all the methods which have been put to a continued and painstaking clinical test by numerous observers, and on which there is a general consensus of favourable opinion, the internal administration of **Creasote** or **Guaiacol** is the one which has gained most favour. The evidence of the utility of these drugs is so large that it becomes a duty to urge one or other of them in all cases, even in the advanced stages of the disease.

Dr. Douglas Powell[7] writes as follows: "In cases of early phthisis, when the acute phase has passed, in cases also of more advanced disease, when the period of hectic has either passed or has much lessened in activity, preparations of creasote and its congeners, especially guaiacol, are of distinct value. The use of these remedies, long since suggested and abandoned, was resuscitated when the specific nature of tubercle became again advocated and demonstrated some fifteen years ago. Bouchard and Gimbert in France, and Sommerbrodt in Germany, appear to have been the first to reintroduce them, and they were long in use by the French physicians before they became seriously employed in this country."

"Of the value of these remedies in many cases of phthisis, and especially in the kind of cases indicated, there can be no doubt; and apart from my own favourable opinion of them, my friend Dr. Semon informs me that in cases of laryngeal tuberculosis under treatment by local applications, his results have been distinctly more favourable since he has simultaneously employed creasote internally; and this is very important evidence."

The whole subject of treatment by creasote has been ably reviewed by Hudeod in an inaugural dissertation,[8] and the following are his conclusions:—

A.—General. (1,) Creasote has not, more than any other medicine hitherto employed for tuberculosis, any specific action, but it nevertheless is of real utility. It does not act as an antibacillary agent, but rather as a substitutive irritant.

(2,) The creasote employed should be of the utmost purity. The treatment should be continued without interruption for several months. Accessory indications, general treatment, hygienic and alimentary details, should not be neglected.

(3,) Its favourable action is especially manifest in tuberculosis of chronic or subacute form, apyretic, even with hæmoptysis. The treat-

ment should be commenced as early as possible from the onset of the disease: it is equally efficacious in children, old people, and adults.

(4,) It is contra-indicated as useless, sometimes even as harmful, in the acute rapid febrile forms, in pleurisy, and tubercular enteritis, also when there are symptoms of acute and chronic nephritis, and in certain cases of idiosyncrasy.

B.—Special. (5,) Creasote locally applied has a favourable action in tubercular laryngitis.

(6,) Enemata are a practical, easy, and useful mode of administration. The patient is thus saved digestive troubles, which the ingestion of creasote might produce.

(7,) They enable the patient to absorb a notable quantity of an active drug, and that without difficulty.

(8,) Given with all necessary precautions, creasote enemata are very well tolerated during several months. They are free from danger to the patient, and produce no intestinal disturbance.

(9,) The administration by rectum appears to deserve the preference in all cases where creasote treatment is indicated.

Poggi[9] prefers guaiacol to creasote, inasmuch as it gives well marked chemical reactions, and its absorption can easily be traced. It can be separated from fæces by distillation. The reagents used were, for the fæces, ferric chloride and ammonio-nitrate of silver; for the urine, bromine water. The author concludes: (1,) That guaiacol, given by the digestive tract, is in part absorbed; (2,) That greater absorption takes place in the healthy than in the tuberculous; one gramme was completely absorbed in the healthy; (3,) A sufficient dose is one gramme daily, this amount being completely absorbed, and no reaction obtained from fæces; (4,) In such doses it is well borne; (5,) The drug is excreted in the urine, not as guaiacol, but as a body giving, with bromine water, the reaction of phenol.

Much larger doses than this have frequently been given, and with satisfactory results. My own practice has always been to give the preference to the purer drug, and therefore my experience with creasote has been small, but with guaiacol it has been considerable, and has ranged over a period of nearly ten years. Commonly it can be taken without difficulty in quantity amounting to 60 minims daily, and in a great number of cases I have given it hypodermically, in a single dose daily of 30 minims, diluted with almond oil. It can also be given dissolved in cod-liver oil; 20 minims in half an ounce may be readily taken, and continued three times daily for several months. The results have been for the most part good. One must not entertain unreasonable expectations from any drug in a

disease like phthisis, and further, one must not adjudicate on results too quickly when we remember how many possible fallacies are associated with conclusions relating to any treatment of phthisis.

The mode of action of creasote has been much discussed: that its action is a fact is now incontestable, but how does it act?

Dr. Powell[10] remarks: "The idea of destroying the tubercle bacillus by any internally administered antiseptic has happily been abandoned, and the effects of creasote treatment, when successful, are chiefly to diminish expectoration, to lessen waste of tissue, and to render the tissues less susceptible to tubercular activity."

And further he adds: "Although having but little direct action upon bacillary activity, these substances have an indirect germicidal function, in that they diminish suppuration in the walls of cavities and about tubercular centres, which, started in the first instance by tuberculosis, tends to be perpetuated through the action of pyogenic organisms and thus to render adjacent tissues more accessible to fresh bacillary attack."

The numerous hypotheses on this subject have been summarized as follows by Hudeod:[11]

(1,) Creasote, a powerful antiseptic, acting as such on the lungs, counteracts secondary infection, and can even have an effect on the bacillus of tubercle; in this way the local condition improves, and secondarily the general state.

(2,) A second opinion, though admitting that the drug may have an effect on secondary infection, holds that the principal effect is due to a substitutive local action, which acts upon the whole bronchial tree and the lung itself. This local irritation successfully opposes tubercular inflammation, and produces an amelioration of the local state; then secondarily the general condition.

(3,) A third opinion, lastly, is the following: The creasote acts at once on the general state, either by the means of the stomach, or by that of the general nutrition, and the patient offering thereby a greater resistance to the tubercular process, his pulmonary lesions retrocede of themselves.

This third hypothesis is clearly untenable, inasmuch as some of the best results have been obtained by the hypodermic injection of the drug, and bearing in mind the possible non-absorption of full doses, it becomes a question whether the hypodermic injection may not prove to be the most reliable method of administration.

Has it not been too readily assumed that these drugs have no direct action on the bacilli of tubercle, or on the secondary contaminating streptococci associated therewith? Although the bacilli may not

be actually destroyed, their power to grow and multiply may be considerably impaired.

This question of the direct germicidal value of such drugs as creasote, or guaiacol, given in full doses by parenchymatous injection, must still be left *sub judice*, but there can be no such need for hesitation as to the direct germicidal action of various drugs in and *on the alimentary canal itself*. This is one view of the action of creasote itself, that it has a local effect on the mucous membrane of the alimentary canal; doubtless this local effect, although not simply an antiseptic one, is of that character in cases where any tubercular ulceration of the mucous membrane already exists; and there can be little doubt that the phenols act in the stomach and intestines directly upon the disease germs which may be found there; they are antiseptics so long as they are not absorbed. But their utility does not end here, for after absorption they are still further of use in favouring the elimination of toxic albumens with which they combine. The experiments of Hoelscher[12] have shown that in the case of guaiacol the blood does not become sterile even after large doses, so that after absorption the direct action on disease germs is lost; but then the secondary action of the drug comes into play, and on the theory of the elimination of the toxic albumens from the body, the action of such drugs as guaiacol carbonate is explained, although no direct antiseptic action on bacilli is possible.

The list of drugs which may have a direct antiseptic effect on the mucous membrane of the alimentary canal is a long one, and it has been pointed out by Dr. H. Elliott Bates[13] that in the prevention of self-infection from the intestinal tract certain drugs have a selective action for particular parts of the alimentary canal; that for the gastric portion bismuth and charcoal are the best; but for the small intestine we should choose salol, sodic salicylate or benzoate, camphor, or ammonium benzoate; whilst for the larger bowel we should prefer either β-naphthol or charcoal. For the mouth it has been stated by M. Paul that nothing is better than saccharine. Bouchard first proposed charcoal, then iodoform, then naphthalin, and finally naphthol of two varieties, α and β, and these were followed by hydro-naphthol.

But the phenol group appears again to be gaining in popular favour, and carbolic acid itself in keratin coated pills, as advised by Dr. Charteris,[14] is one of the most efficient agents for the production of intestinal antisepsis. Various other drugs of the phenol class, which act as germ destroyers outside the body, must have a similar action within the alimentary tract so long as complete absorption does not occur; these are cresol, naphthol, thymol, chlorophenol, pyrocatechin,

pyrogallol, guaiacol, creasote, eugenol, tribromophenol : all these drugs may secondarily counteract toxines and favour their elimination ; but their principal action is the primary direct local antiseptic one.

Another group, including the combinations of phenol with organic acids (salicylic, benzoic, carbonic) have less direct toxic action, and may therefore be given in much larger doses than the uncombined phenol. Salol is one of the best known of these compounds, and it was described by Dujardin-Beaumetz as "the disinfectant, *par excellence*, of the intestines." This drug and benzosol (benzoate of guaiacol) have been much used in cases of phthisis, and with results which are more or less satisfactory.

The salols, carbonates, and bismuth phenols are decomposed in the intestine, salol into salicylic acid and phenol, betol into salicylic acid and β-naphthol, guaiacol carbonate into guaiacol and carbonic acid, tribromo-phenol-bismuth into tribromophenol and bismuth oxide. The action will therefore vary according to the nature of the constituents, the greater or less rapidity of decomposition, and the absorption of the decomposition products.

The carbonate group of non-toxic antiseptics comprises the following: Guaiacol carbonate, creasote carbonate, eugenol carbonate, chlorophenol carbonate, pyrocatechin carbonate. These are becoming very popular drugs in the treatment of tuberculosis, and are giving excellent results. The guaiacol combination may be given in doses increasing up to 75 grains daily, or more ; it contains 91 per cent. of guaiacol, is neutral, non-irritating, having neither taste nor smell, and may be continued by the most sensitive patient for any length of time. These combinations are likely to play an active part in the treatment of intestinal and general tuberculosis, and are well worthy of persevering trial.

In connection with the subject of intestinal antiseptics, the monograph by Hudeod[15] on the treatment of pulmonary tuberculosis by creasote administered by rectum, opens up possibilities of relief to those who cannot take this drug in the ordinary way. The creasote is given either in emulsion with almond oil, or cod-liver oil and yolk of egg, or preferably in spirit, as follows :—

℞	Creasote	grms. 3	Distilled Water	grms. 200
	Cognac	grms. 10		

This dose is given once or twice daily, and if needful a simple evacuating enema is previously used ; treatment has been continued from three weeks to six months, and has usually been discontinued because improvement has been so decided that the patient could no longer be induced to remain in hospital.

Much has been written on the subject of antiseptic *inhalations*, *intra-laryngeal sprays*, *medicated atmospheres*, and other methods of introducing antiseptic drugs by the respiratory route, but although the effect of such topical medication of the lungs is to relieve cough and to lessen expectoration, it cannot be seriously contended that they have any decided effect in the direction of pulmonary antisepsis, and it is questionable if they have any appreciable effect in modifying the course of the disease.

Methods of inunction have also been advised. In cases of joint tuberculosis, much good appears to result from iodoform and other antiseptic applications and frictions. Even creasote applied in this way appears to be a useful auxiliary to other methods of treatment.[16]

Subcutaneous injections of creasote have much to recommend them. There is ample evidence that doses of 30 minims of guaiacol or creasote, diluted with sterilized almond oil, or some similar vehicle, may be given daily for several weeks in succession, and with satisfactory results. But it remains to be proved whether there are any advantages to be derived from the hypodermic administration in cases where the drug can be taken in equal or larger quantity by the digestive tract. If it be the case, as stated by Poggi,[17] that doses exceeding one gramme are not completely absorbed from the alimentary canal, then the hypodermic method is a means by which the dose may be increased indefinitely, and in this case the hypodermic administration becomes a necessity for all cases where full doses of the drug are required.

Intra-pulmonary injections of antiseptics into one or more foci of local tuberculosis have been often performed, and frequently with results which are worthy of note, but on the other hand the method is not free from grave risks, and should only be adopted when other methods have been proved futile.

The methods to which I have now alluded relate entirely to the antiseptic treatment of the patient as a whole, and the possibility, or otherwise, of the *destruction of the specific virus within the body*, is a question on which there may still be room for differences of opinion, and therefore for divergence in treatment. But with regard to the *destruction of the virus after its discharge from the body* of the patient, here we have no need for doubt or hesitation. The disinfection of the virus-containing discharges, whether of respiratory or alimentary origin, is the one thing needful in dealing with the question of contagion in its relation to phthisis, and the "British Medical Journal" has recently done excellent service in making enquiry at the various

consumption hospitals as to the nature and extent of the precautions which are considered needful with the object of preventing or limiting the spread of this disease.[18]

From the first of these articles we quote the following: "One may take it as pretty widely accepted that the growth of the bacillus is the cause of the lesion, that in some way or other the infection gets across from one patient to another, and that when the larynx or the lung is the seat of the primary lesion the probabilities are strong that the infection has entered by the inspired air. It also is generally admitted that the way in which it so enters with the air is in the form of dust, either stained by the tuberculous expectoration, or itself consisting of the dried and pulverized sputum. The point on which the practice of all the hospitals agrees is the necessity of keeping the sputum wet until it is removed." * * * * * * *

"Among the various recommendations certain points of difference are observable, especially as to the treatment of the handkerchiefs, which by some authorities are prohibited altogether; by others allowed, even while the danger caused by them is admitted. Probably nothing short of the constant use of substitutes, which can be burned, will meet the difficulty. There is, however, so large a consensus of opinion as to the material and manner of infection, even among those connected with hospitals which in their practice appear to ignore the probability of its occurrence, and as to the importance of dealing properly with the sputum, that anyone who chooses to accept *in toto* the contagionist hypothesis, and to act up to it in his daily work, will not now find himself without friends, nor feel the want of influential support."

The second article[19] urges "a consistent and methodical warfare against infectious dust, for which purpose we must insist on the use of the spittoon, the substitution of pieces of paper, or of calico, which can be burned, for that horrible thing, the consumptive's handkerchief, the abolition of ornaments and knick-knacks in the sick man's room, and the replacement of the duster by the damp cloth. Great things can be done by attention to small details, and if we can entrap the vehicle of infection, isolation may become as unnecessary as it now appears impracticable."

The use of proper spittoons is now insisted on, and the proper disinfection of such vessels, and efficient destruction of their contents, is equally important, both for the safety of others and prevention of reinfection in the patient. It is commonly advised that, the sputum being only dangerous when dry and converted into dust, the spittoon shall contain some liquid disinfectant, but the destruction of large

quantities of fluid by fire is not easy, and the cleansing of the vessels is troublesome, possibly also giving occasional risk of direct inoculation from broken glass or earthenware ; hence the excellent device of the New York Sanitary Supply Company, a spitting cup, consisting of a metal frame, into which fits a stiff and watertight paper case shaped like a spittoon ; this case is easily lifted out of the frame, and burnt, destruction by fire being much the most effectual mode of disinfection of the sputum.

Dettweiler's spittoon for the pocket, when the patient is out of doors, or travelling, should also be insisted on, and the common plan of expectorating on the ground, or into handkerchiefs, should be avoided as much as possible.

"All sweeping of carpets should be strictly prohibited in the invalid's room, and the floors and furniture should be kept free from dust by the use of cloths rendered damp by sanitas fluid, or other weak solution of a cleansing kind."[20]

"With such simple precautions, and ordinary hygienic cleanliness, any anxiety as to the contagiousness of consumption may be allayed." If the medical profession at large recognized the infectiousness of tubercular sputum and the danger of letting it dry into dust, these simple precautions would be easily and universally adopted with great benefit to the community.

With regard to the destruction of the virus which is discharged from the alimentary canal, the method of destruction by fire is scarcely possible, and therefore we have to fall back upon the use of fluid disinfectants. Here we have an indication of the difficulties which beset us in attempting to exterminate the virus. The writer, in the "British Medical Journal," points out that "during the greater part of the progress of the malady a sufferer from chronic phthisis may be neither a helpless invalid, nor dependent on his friends, nor a burden to the rates. He may carry on his daily work, and be as full of hope and ambition, and almost of usefulness, as any of his neighbours. Many a business has been built up and fortune made, many a reputation has been gained and life's work done, during those intervals of semi-health which figure so largely in the diary of a consumptive's life." And yet during the whole of this period the invalid is daily discharging hither and thither multitudes of living bacilli, and the efficient destruction of these in the midst of the varied duties of daily life becomes as impossible as the various methods devised for their destruction become impracticable.

The administration of intestinal disinfectants might be of some service in checking the germination and multiplication of any bacteria

from the respiratory tract which find their way down the alimentary one; it may be possible to destroy the virus whilst within the alimentary canal, but it will be impracticable to ensure the absolute destruction day by day of intestinal discharges, which may be teeming with bacterial organisms, capable of indefinite life and growth, and endowed with high resistance to all the ordinary disinfectants which are commonly used for the purpose.

REFERENCES.—[1] "Lancet," vol. ii., 1867, pp. 451—550; [2] "Traitement de la Phtisie Pulmonaire,' Daremberg, p. 54; [3] Overholser, "Med. Record," Sept. 2, 1893; [4] Kanthack, "The Medical Magazine," Oct., 1893; [5] "Med. Mag.," May, 1893; [6] Kanthack, "Med. Mag.," Oct., 1893: [7] "Dis. of Lungs," 4th ed.. 1893, p. 548; [8] "Créasote et Tuberculose," Genève, 1893; [9] "Brit. Med. Journ.," vol. ii., 1892; [10] Powell, "Dis. of Lungs," p. 549; [11] Op. cit., p. 154; [12] "Berl. klin. Woch.," 1892, No. 3; [13] "New York Med, Journ.," April 22, 1893; [14] "Brit. Med. Journ.," Dec. 31, 1892; [15] "Studer," Genève, 1893; [16] Sciolla and Bard, "The Medical Week.," 1893, p. 536; [17] "Brit. Med. Journ.," vol. ii., 1892; [18] Ibid., Sept. 16, p. 23; [19] Ibid., Sept. 23, p. 695; [20] Douglas Powell, "Dis. of Lungs," p. 494.

Synopsis.—(Vol. 1893, p. 378.) Huggard prescribes **Creasote in Cod-liver Oil Capsules**; from 10 to 20 drops in twenty-four hours is necessary, and if this cannot be taken, some other drug, *e.g.*, the **Terebinthinates**, the **Balsams**, **Helenin**, **Salol**, or the **Salts of Lime** should be substituted, *e.g.*, terpin hydrate (1 part) and salol (2 parts) mixed together, of which 10, 15, or even 30 grains may be given three times a day, after meals. This may be used where there is high fever, or in hæmorrhagic cases, and where creasote is therefore contra-indicated. Sommerbrodt also uses large doses (15 to 60 grains by weight daily) in cod-liver oil capsules, or **Hofmann's Mixture** (creasote 1, gentian tincture 2) 20 to 80 drops freely diluted in wine or water. Freudenthal uses **Creasote** 10 parts, **Tinc. Gent. Co.** 20 parts, beginning with 2 drops three times a day, increasing 1 drop daily until the maximum of 100 drops three times a day is reached. Kinnicutt opposes large doses as quite unnecessary. Shingleton Smith gives **Guaiacol** in 60 to 90 minim doses daily, either in capsule or dissolved in **Cod-liver Oil**, or with **Tincture of Gentian**, and prefers 50% sterilized solution in **Almond Oil** for hypodermic or intra-pulmonic use, of which ℥j may be used daily, and continued several weeks. Dujardin-Beaumetz uses a 1 in 15 solution of **Creasote** in pure **Olive Oil**, sterilized by heat for hypodermic administration. Massalengo and Silvestri used injections into the supra-spinous fossa of 1 part **Iodoform** and 5 parts **Guaiacol**, in 100 of sterilized **Oil of Sweet Almonds**. **Benzosol** has in some cases been substituted for guaiacol. White injects $\frac{1}{10}$ gr. of **Gold** and **Manganese**, combined with a few minims of **Carbolic Acid**, 1 per cent. Nadaud claims success by hypodermic injection of **Aristol**: he dissolves 1 part with 100 parts almond oil, and injects 1 c.c. daily; 3 c.c. daily being the maximum. Renzi uses **Iodine**: ℞ Aq. Dest. gr. 1000; Iodine, gr. 1; Pot. Iod., gr. 3; Sodium Chlor., gr. 6. 500 to 550 gr. were used by mouth. Passerini uses **Monochloraphenol** as inhalation. Héricourt recommends **Dog's Serum**. Inhalations of **Hydrogen Dioxide** were used by Gabrilovicz for laryngitis, bronchitis, whooping cough,

asthma, and in early stages of laryngeal and pulmonary phthisis. Coronilas obtained satisfactory results with **Sulphide of Carbon** inhalations; he uses: ℞ Carbon Sulphide, 15 grms; Calcium Phosphate, 10 grms; Water, 100 grms. Every eight or ten days the supply is renewed, increasing the sulphide of carbon 5 grammes, until 30 grammes have been reached. **Camphoric Acid**, 1 gramme in a wafer at night, and increased to 2 or 3 grammes has given good results for night-sweats. **Tellurate of Potassium**, in ½-gr. dose, checked the sweating at night, but by day rather larger doses were required. **Powdered Beef** has been advised as a food for consumptives, *e.g.*, Mosquera's beef-meal.

PIGMENTATION OF THE SKIN. *T. Colcott Fox, M.B.*

At the French Society of Dermatology and Syphilography, Barthélemy introduced for Dr. Van Hoorn, of Amsterdam, the so-called method of decortication or peeling of the skin, recommended by Unna for confluent lentigo, chloasma and inveterate rosacea. Firstly, the following ointment is applied several times daily to the affected part:—

℞ Resorcin	ʒjss	Lard	ʒvj
Oxide of Zinc	ʒijss	Olive Oil	ʒij
Pure Anhydrous Silica	gr. xxx		

The resorcin to be carefully pounded and thoroughly mixed with the other ingredients.

At the end of three or four days the skin becomes parchment-like and fissured, and then the following is applied:—

℞ White Gelatine	ʒj	Pure Glycerine at 30°	♏75
Oxide of Zinc	gr. 45	Distilled Water	ʒij

To be warmed before application, and afterwards protected by cotton wool.

In a few days the epidermis becomes detached. Prof. Fournier said he had employed the method several times with success. Dr. du Castel said the method was not applicable to circumscribed pigmentations, nor, Dr. Besnier added, to superficial pigmentation, and it was painful.

Morison, of Baltimore, recommends the following application for the removal of freckles:—

℞ Corrosive Sublimate	gr. vij	Spirits of Camphor	ʒss
Distilled Water	ʒvj	Rose Water	ʒv

Three or four thicknesses of linen are cut to cover the seat of freckles, and are moistened with the solution and placed upon the site at night until they dry, when they are removed. Whatever remains on the skin is not washed off till morning. After a few nights' application, the face gets red and peels. Then a simple ointment is used.

Saalfeld advises the following course for the removal of freckles, vitiligo and chloasma. The affected parts are covered with compresses soaked in 1 per cent. solution of corrosive sublimate in a mixture of

equal parts of alcohol and water. If the compresses are kept moist bullæ form in about four hours, and these are opened and the discharging areas dusted with some inert powder. In a week the dermatitis subsides leaving the skin unpigmented. On a similar principle, but by less severe measures, the desired end can be attained by the application every night of ointments containing sulphur (30 to 50 per cent.), or caustic soda (3 to 5 per cent.). Saalfeld also gives the following formulas :—

℞ Hydrarg. Ammoniat. Bismuth Subnitr. āā	partes ijss	Olei Olivæ Ung. Glycerinat.	partem j partes iv
℞ Naphthol β Zinci Oxidi	partes v—x	Pulv. Amyli āā Vaselinum ad	partes xijss partes l

Here is another formula suggested for the pigmentation of pregnancy :—

℞ Zinci Oxidi, Hydrarg. Oxid. flav.	gr. iv gr. xvj	Ol. Ricini Theobromatis Olei āā Otto Rosæ	℥iijss gtt.x

Sig.—The ointment for use twice daily. Some to be allowed to remain on at night.

Paschkis proposes by tattooing to restore the natural colour in parts which are pigmented.

REFERENCES.—"Soc. Franc. de Derm. et de Syph.," May 18, 1893 ; Morison, "Amer. Derm. Assoc.," 1893 ; Saalfeld, "Corres. Blatt. f. Schweiz. Aertz.," 1892, quoted "Brit. Journ. Derm.," Feb., 1893 ; Ibid., Oct., 1893 ; Paschkis, "Archiv. f. Derm. u. Syph.," Heft. 3, 1893, p. 540 (quoted in "Brit. Med. Journ.").

PLEURISY. *Henry Dwight Chapin, M.D., New York.*

In connection with the use of blisters for the absorption of pleuritic fluid, Dr. Ollivier[1] advises **Phenol Vesication** in children on account of their intolerance to all preparations of cantharides. The solution recommended by Hayem is made by dissolving 9 grammes of crystallized phenic acid in 1 gramme of alcohol at 90° F.

The applications are made as follows : (1,) To prevent a diffusion beyond the region over which the revulsion is to be practised, the region is isolated by a layer of vaseline ; (2,) The surface of the skin is then well cleaned by a tampon soaked in concentrated alcohol, or, better still, in ether ; (3,) When the region is thus prepared, it is rubbed over with another tampon soaked in Hayem's solution and attached to a small wooden rod ; (4,) In about one minute the skin becomes white, after which the excess of phenic acid is removed with a brush moistened with a little alcohol ; (5,) The region is then covered with a little ointment smeared on a piece of linen.

REFERENCE.—[1] "Bull. Gén. de Thérap.," Aug. 30, 1892.

[*Editorial.*

Dr. Dock[1] summarizes the views of several German writers on the treatment of pleurisy and empyema, and concludes that :—

(1,) **Salicylic Acid** and its salts are the most effectual agents in doses of 1 drachm of the acid, or 1 to 2 drachms of a salt, daily ; but in ordinary cases 60 to 90 grains of **Sodium Salicylate** or **Salol** are sufficient at first, and should be diminished after the effect is manifest.

(2,) With proper care in selection and administration, the remedy is harmless, causes no discomfort, and shortens the course of the disease more than any other treatment.

(3,) Salicylates act best in pleurisies with serous effusion of recent origin or of long-standing ; but dry pleurisy, and even secondary forms, are favourably influenced. In suppurative cases, no effects have been noted.

(4,) Diuresis is the chief effect, but probably the pathological process also is controlled.

(5,) During the treatment, the patient should be kept in bed, and the quantity of urine measured daily.

As regards aspiration, Dr. Herman Gardiner[2] would practise it very early in all cases of moderately large pleuritic effusion, without waiting for the subsidence of fever, or trusting at all to nature or the action of drugs. Dr. Green[3] does not hurry to aspirate during the first ten days, but watches the pulse and respiratory action, adopting tapping if dyspnœa, or a rapid, feeble pulse, should indicate interference with respiratory or cardiac action. In later stages, tapping assists absorption by removing pressure on the pleural vessels and lymphatics, and such pressure may be considered to be present when dulness extends as high as the second rib (especially after the second week of the attack).

Herz[4] looks upon rib resection as an unnecessary complication of pleural drainage, except under extraordinary conditions. The same author considers that washing out the pleural cavity cannot efficiently disinfect it, as the infective process is not limited to the pleural surface ; also that washing out breaks down the delicate adhesions by which re-expansion is brought about, and thereby recovery is delayed.

REFERENCES.—[1] Dock, "Therap. Gaz.," Feb. 15, 1893 ; [2] Herman Gardiner, "Albany Med. Annals," July, 1892 ; [3] "Clinical Journ.," Mar. 20, 1893 ; [4] Herz, "Centralbl. f. klin. Med.," Oct. 15, 1892.

Synopsis.—(Vol. 1893, p. 430.) Rickards condemns diuretics as harmful, and Aspirates during the fall of the fever to remove fluid. After operating by usual method, he places oil-silk eight inches square over the opening to prevent entrance of air, and secures it with a layer of

cotton-wool and elastic bandage. Verneuil and Le Fort state that repeated punctures occasion suppuration, but Dujardin-Beaumetz and Dieulafoy advocate early **Thoracocentesis**, the latter when three or four pints are present. Potain mentions **Sodium Chloride** as a remedy for re-accumulation of fluid; the patient is put on a dry diet, and the chloride administered in teaspoonful doses every two hours. Sée considers blisters, diuretics, purgatives, and sudorifics as useless, and aims at keeping up alimentation. Hayem discards blisters, and uses **Salicylate of Sodium** to diminish fluid. Dieulafoy uses a small **Blister** or an injection of **Morphia** for pain of acute pleurisy, and **Taps** when the fluid exceeds a quart. Huchard employs **Milk Diet**, and gives **Squills** with **Digitalis**, and an occasional blister. Moutard-Martin paints on **Iodine**, and gives **Quinine**. Faisans employs **Wet Cupping** at the outset only, and does nothing else, if possible. Köster gives **Salicylic Acid** in 15 gr. doses, and **Salicylate of Soda** in 22 gr. doses, three or four times a day.

PNEUMONIA. *Henry Dwight Chapin, M.D., New York.*

Dr. Baruch[1] calls attention to the dangers of the cold water treatment of pneumonia in children. The cool bath (at 95° reduced not below 75°, with continuous friction of the body for fifteen or twenty minutes) he considers safe, because its effect is not upon the temperature alone, but upon the nervous system which presides over the danger-threatened heart and lungs.

REFERENCE.—[1]"Archiv. Pæd.," July, 1893.

[*Editorial.*

Sallard's[1] recommendations are as follows: 8 to 10 wet cuppings at the painful spot; later a few dry cuppings to lessen dyspnœa; 60 to 80 grammes of **Rum** or **Cognac**, pure or diluted, to suit the taste of the patient; 2 to 5 centigrammes of **Thebaic Extract** in pill for insomnia. For pneumonia due to alcoholism, full doses of alcohol and 5 to 20 centigramme doses of thebaic extract are used. Emetics and cathartics are useful if bilious symptoms predominate, and **Sulphate of Quinine** in malarial conditions. For children Sallard advises **Chloral** at night to combat excitement, or better, warm baths of a quarter of an hour in duration.

The following prescriptions may be used for adults:—

(1,) *Cordial Potion of Dujardin-Beaumetz*:—

℞	Dry Ext. Quinquina	4 grms.	Malaga Wine	90 grms.
	Tinct. Balm-mint	30 grms.	Syrup Bitter Orange-peel	30 grms.
	Tinct. Cinnamon	8 grms.		

M. To be given in dessertspoonful doses in the course of the twenty-four hours.

(2,) *Solution for Hypodermic Use*:—

℞	Benzoate of Sodium	3 grms.	Boiling Water	10 grms.
	Caffeine	2 grms.		

M. One to two syringefuls a day.

(3,) *Potion for Children (Dujardin-Beaumetz)* :—

℞ Bromide of Potassium 2 grms. | Water 60 grms.
Syrup of Chloral 60 grms. |

M. A dessertspoonful in a cup of milk, to which the yolk of an egg may be added.

Dr. A. Jacobi[2] insists that in all cases of pneumonia in children absolute quiet should be maintained, and visitors, light and noise, are to be excluded. The air of the room should be moist and at a temperature of 68° to 72°Fh. Let the patient select his own position ; give liquid food and plenty of water or lemonade, and keep the bowels open. Jacobi does not favour the use of antipyretics, and points out that it is only continued high temperature that is dangerous. **Quinine** is useful, and should be given in the remissions of the fever, and some soluble preparation may be administered by the rectum. Cold sponging or frictions are the best treatment of high fever, but in weak anæmic children warm or tepid baths or warm packs must be substituted. In lobar pneumonia cardiac stimulants are required earlier than in the lobular form, but alcohol should not be used in the early and acute stages. **Digitalis** is given in a large dose of 1 to 4 grains, and repeated once or twice as required, but if the peripheral circulation fails and the pulse is small and weak, digitalis may be given with **Nitroglycerine** $\frac{1}{500}$ to $\frac{1}{100}$ grain, **Sodium Nitrate** $\frac{1}{10}$ to $\frac{1}{4}$ grain, or **Aconite Tincture** 1 minim, every one or two hours until the pulse improves. **Strychnine,** $\frac{1}{30}$ grain in twenty-four hours, may be given to a child one year old. **Ammon. Carb.,** $\frac{1}{2}$ to 1 grain every two hours. **Turpentine Inhalations** assist expectoration; also **Chloride of Ammonium,** 10 to 20 grains volatilised, and **Camphor,** $\frac{1}{4}$ to 1 grain, is also useful.

Jacobi relieves pleural pain by **Sinapisms,** and hacking cough by small doses of **Opium.** In the interstitial form **Iodide of Potassium** and **Digitalis** are employed internally, and iodine externally, in late stages. Pulmonary gymnastics must be persevered with for a considerable space of time.

Dr. Runeberg[3] reports five cases of acute pneumonia in which an hypodermic injection of **Borax** was adopted. He claims that this medication favourably influences the disease.

Federici[4] relieves the pain of pneumonia by the local application of **Chloroform** on cotton wool (using dry wool to cover that which is saturated), the injection of **Atropine** and **Morphia,** or the use of **Leeches.** Internally **Corrosive Sublimate,** 5 to 8 milligramme doses in 3 ounces of water with a little alcohol, is given. **Tartar Emetic** is most useful during the height of the disease. Digitalis must not be given in a

routine manner, or it may help to bring about the cardiac paralysis which is the chief danger. Quinine and serpentary are the best tonics. If rapid prostration supervene about the sixth or seventh day, alcohol or ether must be resorted to. Federici uses ethereal tincture of musk once every twenty-four hours, gradually increasing its frequency if necessary. Bleeding is too frequently neglected.

Dr. Crombie[5] reports twenty-two cases of acute lobar pneumonia, in which 5 to 15 grains of **Calcium Chloride** every four hours appeared to arrest the course of the disease. In lobular pneumonia he failed to obtain any good result.

According to Dr. Petresco,[6] every case of acute uncomplicated pneumonia treated from the beginning with **Digitalis** terminates favourably, and even in complicated cases this agent gives superior results to any other.

Sevestre quotes Renard's observations regarding broncho-pneumonia of intestinal origin. The infant is attacked with a diarrhœa, which is exceedingly fœtid, jaundice asserts itself, the belly is swollen, the face is pale, the pupils are dilated, and the liver is tumefied. With the onset of the fever, pulmonary phenomena manifest themselves, which resemble closely broncho-pneumonia. The progress of the disease is exceedingly irregular, and its intensity is very variable. The prognosis is very serious in children under two years of age. Sevestre employs **Calomel** in 1 grain doses for infants under six months, increasing it 1 grain for every six months up to two years. To relieve the lung, dry or wet cupping or mustard plasters are used ; for dyspnœa two or three injections of **Ether** or of **Caffeine** each day, and for the algid tendencies dry frictions or alcohol rubbings are advised, and also enveloping the patient in woollen garments. The bacterium coli is supposed to originate this disorder, and isolation of the patient is advised.

REFERENCES.—[1]Sallard, "La Méd. Moderne," Aug. 4, 1892 ; [2]Jacobi, "Archives of Pædiatrics," April, 1893 ; [3]"Revue Internat. de Bibliographie Méd.," April 10, 1893 ; [4]Federici, "Rif. Med." June 2, 1892 ; [5]Crombie, "Practitioner," April, 1893 ; [6]"Ann. de Thérap.," July 8, 1893 ; [7]"Therap. Gaz.," Sept., 1892.

Synopsis.—(Vol. 1893, pp. 39, 41, 437.) Coupland prefers cold to antipyretic drugs, of which **Quinine** is safest ; he prefers **Cold Compresses** to poultices ; he would employ **Morphine** rather than chloral or bromides, in cases complicated by delirium but showing no kidney disease or marked bronchitis. Reed places patient in a room of temperature from 65° to 70°, gives cold water freely, and as much simple nourishment as he desires. Also ℞ Tr. Verat. Vir., ♏16 ; Vin. Antimon., ʒj ; Tr. Opii Deod,, ♏20 to 30 ; Liq. Ammon. Acet., q.s. ad ʒiv. M. Sig.—2 teaspoonfuls every two hours in water. **Quinine** (2 grs.) is also given three or four times a day,

and the dose of **Veratrum** raised or lowered according to the sthenic or asthenic condition present. Dessau suggests **Spirits of Nitrous Ether, Dover's Powder,** and **Spirits of Mindererus** to produce diaphoresis, also warm bath at 95°, or sponging with water at 116° F. Petresco gives enormous doses of **Digitalis,** 90 grs. of the leaves in twenty-four hours, and this is well borne, Balfour gives **Chloral,** 20 grs. dissolved in ½-oz. infusion of **Digitalis,** and subsequently, half this dose every hour until temperature falls. Hershey uses *hot* infusion of **Digitalis,** and begins with 10 grs. **Calomel,** and giving the infusion hourly in tablespoonful doses as hot as can be borne. Robert treats delirium, if due to hyperæmia of brain, by **Ice** to head, **Bromides, Chloral** or **Paraldehyde** and **Aconite.** Shingleton Smith found **Chloralamide** useful for sleeplessness and delirium of pneumonia. Brunton and Prickett had used injections of **Strychnine** and **Inhalations of Oxygen** successfully in an apparently moribund case.

PNEUMONIC GANGRENE.

Synopsis.—(Vol. 1893, p. 441.) If egress is not given to necrotic *débris,* careful **Curetting** with a guarded blade may be done after an external opening is made. The **Ablation** of affected portion may be required if the whole lobe be included.

POLIOMYELITIS.

Synopsis.—(Vol. 1893, p. 441.) In early stage **Dry** or **Wet Cups** to spine, near site of inflammation, may do good; or **Leeches** may be used, and **Mustard Plasters** over the spine. **Ice Poultices, Warm Salt Bags,** or alternate **Hot and Cold Applications** may be employed. Free diaphoresis should be kept up at first by **Warm Baths, Packs,** or **Hot Drinks,** to which perhaps **Spirit of Mindererus** has been added. Bowels should be kept loose. After acute stage, **Arsenic** and **Strychnine** are valuable, and **Iron** and **Quinine** may perhaps be added. **Cod-liver Oil** is specially useful in children. Electricity should not be used before third or fourth week—usually slowly interrupted **Galvanic Current** is best. **Massage** is useful. The paralyzed parts must be well protected from cold.

PREGNANCY.

Dr. La Torre[1] suggests that the following points assist the diagnosis of fœtal monstrosities: (1,) The presence of an abnormally large quantity of liquor amnii; (2,) The presence of active disorderly fœtal movements in conjunction with the hydramnios; (3,) A family history of fœtal monstrosities, or of alcoholism; (4,) A history of abdominal injury or severe nervous shock during the pregnancy.

Dr. Duff[2] refers to the administration of **Strychnine** as a remedy preparatory to labour where there is general debility and want of muscular tone: in women who previously have had tardy labours from irregular and feeble uterine contractions and from want of tone in the auxiliary abdominal muscles; in women who have a history of post-partum hæmorrhage, and of want of retraction and contraction of the uterus subsequent to delivery; in those who are subject to severe after-pains necessary for the expulsion of clots in the uterus.

In all such cases a treatment should be instituted of gr. $\frac{1}{60}$ of strychnine three times a day, beginning from six weeks to two months prior to the anticipated time of delivery, and kept up until a week or ten days before delivery, when, if it is well borne, it may be increased, according to the judgment of the attendant, to gr. $\frac{1}{40}$ or gr. $\frac{1}{30}$, and in some cases to gr. $\frac{1}{15}$.

The cases in which he has administered it for the most part were those with which he had had experience of tardy labours, post-partum hæmorrhage, and severe after-pains. In nearly all of them the improvement over past experiences was so great that the patients themselves were cognizant of it, and expressed gratification.

M. Weiss[3] having failed to cure an obstinate case of vomiting in pregnancy by means of the ordinary drugs, had recourse to intestinal injections of 2 litres of a saline solution (2·5 per cent). The injections were repeated twice during the twenty-four hours to begin with, and subsequently diminished to every other day, whilst the strength of the solution was decreased to 1 per cent. After the first injection the vomiting ceased for several hours, and the patient soon recovered. As a rule the vomiting ceases after the first application.

Routh[4] has always succeeded in arresting obstinate vomiting in pregnancy by bathing the cervix and lower portion of the cervical canal with a mixture containing equal parts of **Iodine, Iodide of Potash, Alcohol and Water.**

The following ointment[5] may be applied to remove the skin spots often present during pregnancy :—

℞ Pure Oxide of Zinc gr. iv | Castor Oil
Yellow Oxide of Mercury gr. xvj | Cocoa-butter āā ℥iijss
Essence of Roses gtt. x

Make an ointment and apply, with friction, twice a day.

At night allow some of the ointment to remain on the parts affected.

REFERENCES.—[1] La Torre, "Ann. di Ostet. e Ginec," July, Aug., Sept., 1892 ; [2] Duff, "Therap. Gaz.," May, 1893 ; [3] "Centrabl. f. d. gsmmte Ther.," Aug. 1892, p. 458, 459 ; "Therap. Gaz.," July, 1892, p. 480 ; [4] "Frauenarzt," March, 1892 ; [5] "L'Union Médicale," Nov. 24, 1892.

PROSTATE (Surgery of). *E. Hurry Fenwick, F.R.C.S.*

Concretions in the Prostate.—E. H. Keyes[1] records a case in which a large number of millet-seed prostatic concretions were removed by a perineal incision from a patient who had suffered from constant dribbling of urine, clear residual urine and urethral discharge being present. There were no symptoms of vesical calculus. The

dribling and discharge were relieved after three weeks' perineal drainage of the bladder.

The Senile Enlargement of the Prostate.—Many important papers have appeared upon the etiology and treatment of the enlarged prostate—especially as regards the cure of the symptoms by prostatectomy. In spite of the unfavourable opinion of this operation, expressed by Socin, Guyon and Sir Henry Thompson, this procedure has steadily gained in the estimation of the profession, and is to-day a well recognized and justifiable surgical procedure, applicable to a large number of cases; though many are at variance as to the exact indications rendering the interference justifiable.[2]

There is a general feeling against performing suprapubic prostatectomy when rigors and fever are present.

Charles K. Briddon reports a case in which he operated with success when the temperature was 104°, and when the general condition of the prostate was very bad. In criticism upon this case the collaborator points out that the symptoms of prostatic retention had only been in existence two weeks, and it is quite otherwise when rigors ensue during well advanced catheter life. In such cases the kidney is probably gravely affected, and prostatectomy is unfavourable.

Treatment by Castration.—White,[3] after an exceptionally lucid and impartial review of our knowledge of the enlarged prostate, the symptoms evoked by its presence, and the modern surgical treatment for the relief or cure of these latter, opens an important subject for discussion and trial as follows: "It occurred to me sometime ago, if the analogy between uterine fibromyomata and prostatic overgrowth was a real one, castration might have the same effect upon the latter that oöphorectomy has upon the former, and cause a shrinkage or atrophy which would result in the practical disappearance of the obstruction." Prostatic atrophy is known to occur in eunuchs, geldings, etc. White then proceeds to show that experimentally the influence of castration upon the prostate in dogs is very great, and is inevitably and promptly followed by atrophy, first of the glandular and then of the muscular elements of that body. In this White independently confirms the observations of Griffiths and others. Upon these grounds he suggests the employment of castration as a therapeutic method in prostatic hypertrophy. It remains to be shown that castration will affect the hypertrophied prostate, for although there is no doubt of the intimate relation of work and growth between the testes and prostate, there is no evidence of the influence of the testes upon the diseased conditions of the prostate. Moreover it is not yet ascertained whether or not mere section of the vas deferens would not be suffi-

cient to cause atrophy of the corresponding lobe of the prostate in dogs. If a section or division of the vas was sufficient the operation would probably be largely resorted to.

Bier[4] (Kiel), acting on the knowledge that various benign tumours of muscle, glands, and of the connective tissue series disappear upon the diminution of the blood supply, carried out ligation of the internal iliac artery in unilateral prostatic hypertrophy, and the ligature of both arteries in the bilateral form of the disease. In one fatal case the procedure was transperitoneal, and in the other two it was extraperitoneal. The decrease in the size of the prostatic enlargement in the latter two cases was most striking and most complete, the urine was spontaneousiy discharged immediately after the operation. No ill results to the circulation followed the intervention. These results would point to the cause of the trouble being in the vascular supply of the gland.

Prostatectomy[5].—As regards the technique of this operation, the adoption of the Trendelenberg position,[6] the omission of the rectal bag, the arrest of hæmorrhage by a Keyes' or Cabot's tampon (*vide* pp. 484, 485), the use of the écraseur introduced through the urethra[7] (the mucous membrane being incised, and the wire being guided to its proper place through the usual suprapubic incision), are the modifications most worthy of mention. It is important, as White points out, to know how little we may remove of the obstruction with a reasonable prospect of cure or benefit resulting. It must not be forgotten, as Belfield has shown, that the object of the operation is "to restore a low level channel through the prostate, and is not simply the excision of the overgrowth." It must also be remembered that in a number of cases (Schmidt, Guyon, McGill and Belfield), various forms of obstruction due to *suburethral* prostatic growth have been found, and have either rendered the suprapubic operation a failure or have required special operative measures for their relief. The collaborator has made it a rule always to ascertain before finishing the operation that the urethral orifice is patulous, and that the prostatic urethra is not encroached upon by any small prostatic knot. Usually either of these conditions can be remedied through the suprapubic wound after the obstructing vesical outgrowth has been removed, and the extra incision in the urethral mucous membrane, and the stretching necessary in such cases "adds but little to the dangers of the case."

An interesting case in point is recorded by Bolton Bangs[8]: A man aged fifty-nine was relieved suprapubically of a stone, 400 grs. in weight, and two large cherry sized prostatic outgrowths. The bladder

was well drained, but he could only, as a result of the operation, expel a small quantity of urine, and was compelled to be on one side or the other, in order to accomplish this. At his very best he could only retain his urine two hours. Moreover, he was troubled with recurrent attacks of cystoprostatitis and was almost dependent on his catheter. After three years of suffering and futile medication, the bladder was again attacked by the perineum. The prostatic urethra was well dilated, and 1700 grains of calculus were removed; the bladder was freely drained for four weeks by a rubber tube packed closely round with iodoform gauze. On the healing of the perineal wound he was able to urinate standing, the interval during the day being four to six hours, and seven to nine hours at night. Only two ounces of residual urine remained after voluntary evacuation, and the stream was strong and full, and was made with every sense of comfort. Bangs considers mere finger dilatation of the prostatic urethra through the suprapubic wound insufficient, and apparently advocates dilatation with a Dolbeau dilator in all cases. This is not usually necessary.

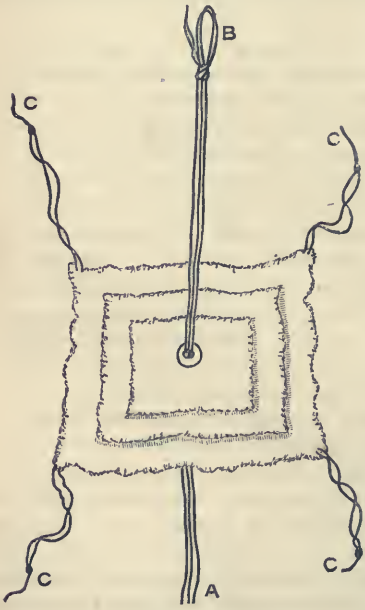


Fig. 52.

Two forms of hæmostatic tampons for checking the hæmorrhage, which sometimes ensues on the removal of prostatic lobes, have been tried during the last year, and have given satisfaction.

The original pattern was introduced by Keyes, of New York. A square of four thicknesses of bichloride gauze is cut, the length of each side being six inches. Upon this are placed eight thicknesses of gauze cut square, each side measuring four inches; and upon these, eight other thicknesses of gauze also square, the side measuring three inches, are placed.

Centrally upon the three inch pad a small white shirt button is tied by stout silk ligatures, which are made to transfix the pad, and are then tied upon the six inch square surface. This central button also

has a piece of silk attached to it (*vide Fig.* 52 *B*), running out freely in the direction away from the three inch surface. This is to facilitate extraction. Each of the corners is stoutly tied with silk, so that these and the central silk may be made all taut together when pulled gently upon in extraction.

Keyes passes a soft bulbous olivary French catheter through the urethra into the bladder, and out through the suprapubic wound. He then ties the ligature *A*, which has transfixed the pad from the three to the six inch square surface, to the bulbous end of the catheter and withdraws the latter along the urethra; by this means firm pressure can be exerted upon the urethral orifice and the funnel-shaped excavation of the prostate. Another method is to bring out the traction ligature *A* through a boutonnière incision, and to exert pressure downwards from the perineum.

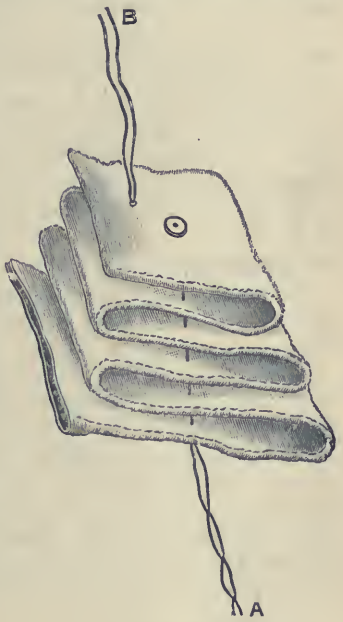


Fig. 53.

Dr. A. T. Cabot has used a tampon consisting of a long strip of gauze, the edges of which should be rolled in (*Fig.* 53) and stitched, so that there should be no loose frayed edges. A button is placed on the smaller surface and is retained in place by transfixing the entire roll with a stout ligature *A*. This is employed in the same way as the Keyes' tampon, but it has this advantage, that on loosening the thread which passes through the perineum or urethra and on drawing on the upper thread *B*, the compress comes out as a long strip rather than in at bulky mass.

In one case of extreme hæmorrhage after extensive prostatectomy the collaborator packed the entire cavity of the bladder with iodoform gauze, leaving the ends out as a drain. This acted admirably, but proved very painful in removal—so that gas or some form of anæsthesia was desirable. After such packing, the danger of leaving part of these tampons in the bladder was well illustrated in a case of suprapubic cystotomy, which finally came under the notice of the collaborator. A suprapubic wound never healed, and after months of

cystitis and pain a stone was discovered. On removal, it was found to be a phosphatic encrusted gamgee gauze pad, which had probably been used to swab the bladder with, and which had been overlooked by the operator and left in the bladder.

Continuous Suprapubic Drainage inducing Mental Symptoms.—Dr. John A. Wyeth [9] has raised the question whether continuous suprapubic drainage does not induce mental aberration. The three cases which he quotes occurred in old and feeble men long after the traumatic effects of the operation had subsided. Those who took part in the debate were rather of an opinion that iodoform used in the operation, and subsequently, had some share in the mental derangement. [There is reason to believe that vesico-prostatic ailments in the old aggravate any inherited tendency to suicide or mental aberration.—Collaborator.]

REFERENCE.—[1] "Journ. Cut. and Gen.-Urinary Dis.," p. 34, Jan., 1893; [2] White, "Annals of Surgery," p. 64, 1893; [3] "Ibid., p. 152, vol. xvii.; [4] "Wien. klin. Woch.," p. 32, 1893; [5] White, "Annals of Surgery," p. 74, vol. xvii.; [6] cp. "Medical Annual,' 1890, p. 152; [7] Ibid., p. 414, 1892; [8] "Annals of Surgery," p. 442, vol. xvii.; [9] Ibid., p. 65, 1893.

PROSTATITIS.

Dr. Freudenberg[1] recommends **Ichthyol Suppositories** in this affection. He has used them in from thirty to forty cases during the past two years, and only in two did they fail to give relief. The cases were mostly subacute or chronic. Any necessary treatment of the urethra was carried out at the same time. The suppository consists of 0·5 gr., increased up to 0·75 of ichthyol to 2·0 to 2·5 cacao butter. If any irritative symptoms appeared—and this may happen with any suppositories—smaller quantities of ichthyol were employed. Two, and sometimes three, suppositories were used in the day. The author refers to other cases in which ichthyol has been tried, and more especially to Scharff's forty cases, but here the prostatitis was acute and mostly gonorrhœal in origin, and a 10 per cent. solution was injected into the rectum.

REFERENCE.—[1] "Med. Record," Oct. 14, 1893.

PRURIGO.

Synopsis.—(Vol. 1893, p. 450.) Ehlers uses **Sea Baths** in summer, and **Warm Baths** in winter, given daily with frictions, with 10 per cent. **Naphthol Pomade**, until all lesions disappear. Vidal protects skin from the scratching by **Plasters**, *e.g.*, cod-liver oil plaster, with menthol or naphthol added. **Pomades of Naphthol** and **Glycerine of Starch**, with **Tartaric Acid** 5%, and **Menthol** 2 to 5%, are useful. Klein recommends ℞ Lanolin pur. anhydr., 50 grms.; Vaselin, 20 grms.; Aq. Dest., 30 grms.

Saalfeld uses **Warm** and **Tar Baths**, and Wilkinson's or **Naphthol Ointment**, 2 to 3%, and in serious cases hypodermic injections of **Pilocarpine**. For senile prurigo, Besnier uses ℞ Ac. Phenic. 4 parts; Ac. Acet. Aromat. 200 parts. Solve, add 2 tablespoonfuls to each litre of water at 40° C. (100° Fahr.), in which the whole body surface is washed each evening, then dry and powder with ℞ Bismuth Salicylate 20 parts, Powdered Starch 90 parts; or, ℞ Finely Powdered Salicylic Acid, 20 parts, Powdered Starch 180 parts.

PRURITUS. *T. Colcott Fox, M.B.*

Azua in the general itching of the skin which is observed in heart disease and in the emphysema of the aged with dilatation of the right ventricle, recommends tincture of **Strophanthus** in 6 minim doses twice daily.

I have had a remarkable success with this treatment in the case of a lady suffering with an irregular pulse and distressing pruritus.

Leloir recommends the use of the **Electric Souffle**, and has obtained good results in twenty-five cases of pruritus, which affected chiefly the anal and vulvar areas. The patient is placed upon an insulated couch or stool, and is connected to one pole of a Wimshurst machine. The other pole, armed with a metallic point, is directed to the affected part from a distance of 4 inches. The brush discharge from the point produces only a slight sensation, which is not painful. The duration of each application should be from ten to fifteen minutes.

Biëlayew says **Resorcinol** (composed of resorcin and iodoform) immediately calms pruritus.

Colombini obtained excellent results with **Menthol** where ichthyol and β naphthol failed. He uses a 5—10 per cent. solution in alcohol, or better still a 10 per cent. solution in sweet almond oil, or 2·6 per cent. in dusting powder, or ½—3 per cent. in zinc paste. The application must not be too strong on excoriated surfaces, nor put on too extensive a surface, as the feeling of cold may be disagreeable. Lastly, we may refer to two communications of value which will not bear condensation in the space at our disposal. The first is by Brocq on "Sedative Douches in Pruriginous Dermatoses," the second by Bronson on the "Treatment of Itching."

References.—Azua, "Semaine Méd.," 1893; Leloir, "Archiv. d' Electricité Méd.," July, 1893; Colombini, "Giorn. Ital. d. Mal. Vener.," March, 1892, and "Brit. Journ. Derm.,"; Brocq, "Journ. Cut and Gen. Urin. Dis.," June, 1893; Bronson, "Med. Record," Oct. 14, 1893.

PSORIASIS. *T. Colcott Fox, M.D.*

A keen discussion still proceeds as to the etiology of psoriasis, chiefly limited to the determination of its neurotic or parasitic nature. Meanwhile the treatment must remain to a large extent empirical.

Byron Bramwell and Arthur Davies, struck by the action of **Thyroid Gland Extract** on the skin, have exhibited it in cases of psoriasis and some other skin diseases with such promising results that it is now being tried on all hands. That it clears off the eruption in some cases is certain, but others do not appear to be influenced to the same extent. It is well to warn those who propose to use this remedy to feel their way carefully with this powerful remedy. Byron Bramwell gave 5 minim doses of Brady and Martin's extract thrice daily.

Cazenave and Rollet speak well of **Gallanol** in cases of medium intensity. It is valuable for the scalp, face and neck, but for the body is obviously much less effective than chrysarobin.

Hydrastin (10 per cent. ointment) has also been recommended for application once daily, after washing the areas; and **Alumnol** in spirit (2½ per cent.) for the scalp and face.

Oudin was successful by applying **Alternating Currents** of high frequency. The usual method was to put the body in contact with a large electrode, and draw sparks from the diseased skin by the other electrode. The pain and discomfort were lessened with very high rapidity of alternations, and in proportion as the distance between the electrodes was increased.

J. Hutchinson thinks an ointment containing chrysophanic acid, creasote, liquid carbonis detergens, and the ammonio-chloride of mercury, varying in proportion according to the delicacy of the skin, by far the most efficient means of treatment. The regular use of the warm bath with liquid carbonis detergens or carbonate of soda or both, in the proportion of ʒj to the gallon, very much increases the efficacy of this treatment.

Gottheil in six cases obtained a result with **Europhen** as satisfactory as with chrysarobin. Gamberini and Monari have cured psoriasis in twenty days by frictions with a liniment composed of 20 per cent. dried **Ethylate of Sodium** in olive oil. Dale James seeks to get over the difficulty arising from the free use of dirty, greasy applications by the following method. Solution of chrysarobin in chloroform (1 in 7) is poured into a suitable vessel; a desirable amount of oleum deelinæ (equal parts or greater dilution) is added to it, the whole stirred up with a hog's bristle shaving brush, with which the psoriatic area is to be well scrubbed.

Thibierge, in an admirable lecture, discusses the various treatments. Applications of simple unctuous substances often prove beneficial, and are called for in acute stages, or where there is considerable inflammation. As a rule, however, active applications are called for. **Oil of Cade,** in increasing strength applied at bed time, is the favourite French

remedy, viz. oil of cade, 15—100 grammes, Panama extract or soft soap, q.s. for an emulsion, neutral glycerine of starch, 90 grammes. Salicylic acid (3 per cent.) may be added. The patient wears a flannel night dress. The smell is a great objection.

Chrysophanic Acid is the most efficaceous, but its disadvantages are well known. These are sometimes obviated by painting on a chloroform solution (10 per cent.) and varnishing over with liquid guttæ perchæ. Pyrogallic acid is cheaper, but less efficacious, and only suitable for limited surfaces on account of its toxic properties. A 10 per cent. naphthol is agreeable, but much slower in its action, and salicylic acid still more so.

It is remarkable how much difference of opinion exists as to the efficacy of arsenic exhibited internally in solution in increasing doses, or in hypodermic injections of Fowler's solution diluted with five times its own weight of water, or in the form of Asiatic pills (3—10 in twenty-four hours). Hutchinson thinks this drug will in all cases, if pushed, cause the scales to fall and very often bring about a cure. Kaposi administers it, but discontinues it after a time if no benefit is observed. He allows it is sometimes ineffectual, and the disastrous effects of arsenical cachexia must be borne in mind. Thibierge, as the result of French experience, concludes that it is not a specific for psoriasis, indeed French opinion is far less favourable to its power than that of Hutchinson and even Kaposi. Thibierge says it is apt to prove beneficial where psoriasis is associated with defective nutrition.

Nielsen found that the results at Copenhagen with huge doses of **Potassium Iodide** appeared to be better than with arsenic. Thus under the former the average duration in adults was 38·7 days, in children 61·9 days; with arsenic in adults 52·3 days, and in children 90 days.

References.—Discussion "Brit. Med. Assoc.," 1893, by Crocker, Abraham, etc.; Byron Bramwell and Arthur Davies, Idem; Cazenave and Rollet, "Lyon. Med.," Aug. 27, 1893; Oudin, "Le Progrès Med.," p. 104, Aug., 1893; J. Hutchinson, "Archiv. of Surg.," July and October, 1893; Gamberini and Monari, "Rev. Internat de Bibl. Med.," Sept., 1892; Dale James, "Brit. Med. Journ.," 1893; Thibierge, "Semaine Méd.," 1893; Nielsen, "Monatsh. f. Prakt. Derm.," vol. xv., 7 and 8, also "Brit. Journ. Derm.," Feb., 1893, and re-published by Sydenham Soc.

PSOROSPERMOSIS FOLLICULARIS VEGETANS.

Synopsis.—(Vol. 1893, p. 453.) Schwimmer advises destruction with Electro-cautery in early stages.

PUERPERAL ECLAMPSIA.

Charpentier[1] looks upon **Milk Diet** as the best preventive treatment of this condition, and orders it immediately albumen is detected in the urine during pregnancy. In vigorous patients with marked

cyanosis the convulsion should be treated by **Venesection** to the extent of sixteen ounces followed by the use of **Chloral.** For feeble patients the chloral alone should be given. Labour should be allowed to begin spontaneously and terminate without interference if possible, but should delay take place either forceps or version may be resorted to if the child is alive, and craniotomy if it is dead. The cervix should be well dilated before undertaking either of these operations. Cæsarian section and deep incisions into the cervix are absolutely contra-indicated.

Tarnier confirms the utility of the milk diet, and points out that headaches and epigastric pains are often precursory of eclampsia as well as albuminous urine.

Duchamp[2] advocates the administration of chloral through the stomach-pump tube, as rapidity of absorption and assimilation of the full dose can be guaranteed in the stomach, but must necessarily be much more uncertain when enemata are employed.

Strontium Lactate,[3] in 15-gr. doses appeared to assist other treatment in a single reported case. The diuretic effect was very marked, but the convulsions were not materially influenced by the drug.

Dr. Gustave Lang[4] inclines to the opinion that syphilis is a predisposing and an aggravating cause of eclampsia.

REFERENCES.—[1]"Bull. de l'Acad. de Méd.," vol. xxix., No. 5, Jan. 31, 1893; [2]Duchamp, "Archiv. d'obstet. et de Gynéc.," August, 1892; [3]Ménager, "Gaz. méd. de Nantes," March 12, 1893; [4]Gustave Lang, "Arch. de Tocol. et de Gynéc.," Nov., 1892.

PUERPERAL SEPTICÆMIA.

Dr. Halliday Croom[1] emphasies the necessity of routine preventive measures, viz., the employment of antiseptics and careful use of forceps. Delayed labour is one cause of puerperal fever, hence Dr. Croom's rule is to allow no multipara to be in the second stage more than three hours, and no primipara longer than four hours.

Dr. Carey[2] employs the intra-uterine douche whenever the hand or instrument has been introduced into the uterine cavity. **Creolin** 2 per cent., **Carbolic Acid** 5 per cent., **Thymol** 1 in 1000, or **Corrosive Sublimate** 1 in 2000 may be used, and in each case a douche of distilled or boiled water should follow the antiseptic.

Scott[3] regards the ordinary douche as inadequate. He opens up the vagina with a trivalve speculum, carefully cleanses the whole tract with **Lysol Solution,** 1 to 100, and then swabs out the uterus with cotton wool repeatedly dipped into a 15 volume **Hydrogen Peroxide** solution, concluding with an irrigation of corrosive sublimate 1 to 5000 at 110° F. Cervical and perineal lacerations, if present, should be

repaired and kept as far as possible aseptic. Drs. Carey and Scott differ as to their recommendations of curettage, the latter discouraging its adoption entirely. Carey (quoting from Lapthun Smith) enunciates the following views: Daily records of the temperature of confinement cases should be taken, and upon the first rise of temperature a vaginal douche should be given. If the temperature does not fall speedily, the douche must be made intra-uterine. If no improvement occurs in twenty-four hours, **Curette, Irrigate,** and apply **Tincture of Iodine** to the cavity of the uterus. If these measures fail and peritonitis develops, perform an exploratory incision; and if there is no other evident source of infection, remove the uterus. The free exhibition of stimulants with **Iron, Quinia,** and **Strychnia** must be rigidly enforced. Free purgation must be speedily induced upon the first indication of peritoneal inflammation. But no reliance should be placed in medication with antipyrin, salol, or any other antipyretic or antiseptic drug, when it is possible to locate and mechanically remove the seat of poison.

Dr. Reginald Pratt[4] has applied pure undiluted **Carbolic Acid** to the uterine cavity with good results in two cases. Where the case has gone on to suppurative peritonitis, abdominal section and douching of the peritoneal cavity with **Boric Acid Solution** are indicated. The swabbing out of the uterus with carbolic acid may be carried out after the douching. If any sanitary defect be discovered in the house, the patient should be *at once* removed from it; numerous cases have been reported of immediate improvement and ultimate recovery under such circumstances.

Dr. Aust Lawrence[5] uses pessaries containing 20 grains of **Iodoform** twice daily.

REFERENCES.—[1] "Glasgow Med. Journ.," April, 1893; [2] Carey, "American Lancet," Dec., 1892; [3] Scott, "New York Med. Journ.," Feb. 4, 1893; [4] Pratt, "Provinc. Med. Journ.," Sept. 1, 1893; [5] "Med. Record," Sept. 2, 1893.

PYURIA. *E. Hurry Fenwick, F.R.C.S.*

Pus in the Urine: How to discover its Source? is the question introduced by Keyes,[1] of New York.

Anterior urethral pus exudes from the meatus. This is almost conclusive evidence that the trouble lies anterior to the "cut-off" muscle (compressor urethræ) in the membranous urethra. In posterior urethral pus, there is no better expedient than first washing out the anterior urethra with a $\frac{1}{16}$ per cent. solution of salicylic acid. Then make your patient urinate in two clean glasses. Practically, the pus will be found in the first specimen, and the rest will be reasonably clear. If

you suspect that the pus originates in a prostatic abscess, or the seminal vesicles, wash out the anterior urethra as before, and then make your patient pass water into three glasses. First let him pass about one-third ; then put your finger into his rectum, and press upon the seminal vesicles or the prostate, and milk the focus of suppuration, and the second third of the urine will contain the pus. The third part will be comparatively clear.

To distinguish between bladder and kidney pus : If the pus has its source in the kidney, it is not flocculent, it is cheesy and heavy, and does not float like bladder pus. It settles down quickly. In pyelitic pus, the urine is often over-acid, and will remain clear and acid after standing for perhaps a week. But bladder pus is stringy, and the urine will quickly decompose, and when passed it is frequently ammoniacal or neutral.

Another distinguishing consideration is the amount of albumen present. It is relatively greater in renal puriform urine.

The chance of error is the sympathetic albuminuria that accompanies inflammation of the prostate, or about the trigone.

REFERENCE.—[1] "Journ. Genito-Urin. and Cut. Dis.," p. 236, 1892.

RABIES.

Much interest attaches to the labours of Drs. Lizzoni and Centanni, whose experiments would seem to have demonstrated the value of their vaccine lymph in combating this disease. They report that, in an animal so peculiarly susceptible to rabies as the rabbit, they are able to secure immunity under most dangerous conditions (such as sub-dural infection), the vaccination being all performed at one time, and the treatment delayed even until symptoms are far advanced. The operators consider that the question of systematically vaccinating all dogs calls for serious consideration.

Later on, they propose to publish full accounts of the methods of extraction and preparation of the vaccine, and also the series of experiments at present being carried out.

REFERENCE.—"Brit. Med. Journ.," Mar. 11, 1893.

Synopsis.—(Vol. 1893, p. 454.) Ghose reports a case cured by eleven subcutaneous injections of **Pilocarpine Hydrochloride**, $\frac{1}{3}$ gr. each, in the course of seven days. He excised the scar, and kept the wound open for two weeks previously, thus relieving pain in it.

RACHITIS.

Synopsis.—(Vol. 1893, p. 454.) If child cannot be sent to the sea-side, French physicians order warm **Sea Baths** for three or four minutes, or **Salt Baths**, 6 or 8 lbs. of salt in each ; 4 or 5 meals are given daily, at intervals of three hours, consisting of rich phosphated foods, with alkaline and lime salts, milk, eggs, cream, soups with Italian pastes, smashed peas and other vegetables, but very little meat.

Phosphates are given in powders; the hydrochloro- or the aceto-phosphates, or milk phosphates. **Cod-liver Oil** is given, a teaspoonful at first, increased to 5 or 6 tablespoonfuls daily, and in summer time the following: ℞ Fresh Butter 500 grms., Potass Iod. 0·25 grm., Pot. Bromid. 1 grm. Sodium Chloride 8 grms., Phosphorus 0·01 grm. M. Sig.—100 grms. a day on bread (Trousseau's Butter). Comby gives ℞ Cod-liver Oil 1000 grms., Phosphorus 0·01 grm., M. Sig.—Teaspoonful dose. Caution must be used with this oil. Kassowitz uses ℞ Phosphorus 0·01 grm., Lipanine 30 grms., Pulv. Sugar, Pulv. Gum āā 15 grms., Aq. Dest. 10 grms. M. Sig.—Teaspoonful per day.

RAILWAY SPINE. *Græme M. Hammond, M.D., New York.*

Dr. Dircum,[1] in a paper on the prognosis of railway spine, reported a typical case in which the patient, after a severe injury, suffered from pain in the back, associated with neurasthenic and hysterical symptoms. There was no element of litigation in it, so it was considered as a suitable case in which to test the possibilities of the **Rest-cure,** which might perhaps enable one to answer the questions so often asked of the medical witness in court: "Will the patient recover, and if so, how long a time will it require?" After five months and a half of treatment in a special hospital, an almost complete recovery had ensued.

REFERENCE.—[1] "New York Med. Journ.," Sept., 1893.

RECTUM.

Irritable Ulcer.—Dr. Lewis Adler's[1] recommendations are as follows: The use of bland, nourishing food, daily exercise, regular defæcation, assisted if necessary by mild aperients or nightly enemata of warm water or rich flax seed tea. To allay spasm, the following suppository may be used before the enema:—

℞	Ext. Belladonna Cocain Hydrochlor.	gr. ½ to ½ gr. ¼ to ½	Ol. Theobrom.	gr. x

M. et ft. Suppos. j

Or,

℞	Ext. Conii Ol. Ricin.	℥ij ℥iij	Ung. Lanoline q.s. ad	℥ij

M. et ft. Ung.

Sig.—A small quantity to be smeared over the anus five minutes before the motion is expected, and also after it has taken place. (Harrison Cripps.)

Of local palliatives, **Nitrate of Silver,** 10 to 30 grains to ℥j is best, and may be used every twenty-four to forty-eight hours after the application of **Cocaine** 4 per cent. After the application an ointment of **Iodoform,** 30 grains to ℥j, or **Iodol** may be used. The daily introduction of a wax or tallow bougie is often beneficial; this should also be preceded by the application of cocaine or belladonna ointment. Of the operative measures, Dr. Adler prefers combined incision and dilatation.

Chronic Inflammation of the Rectum.—In three cases of chronic rectal inflammation from various causes which had resisted every treatment, Mr. A. Strisover[2] has obtained a cure by prescribing enemata of **Carbolic Acid** to be repeated twice daily during a longer or shorter time. The enemata are made by dissolving 10 drops of carbolic acid in two tumblers of very hot water. They should be retained during six to ten minutes.

Inflammation of the Rectum in Children.—Dr. Louis Starr[3] treats this affection in children with injections of a 1 per cent. **Salt Solution**, followed each time by an injection of 2 drachms of **Olive Oil**.

Stricture of Rectum.—Dr. Byron Robinson[4] is of opinion that gonorrhœa is responsible for the greater frequency of stricture of the rectum in females. In support of this view he points out the peculiar suitability of the rectal cylindrical epithelium as a nidus for the gonococcus, and also the ease with which infection takes place.

Cancer of Rectum.—Dr. Dujardin-Beaumetz[5] reports a number of successful cases of rectal cancer treated medicinally *only*—successful in so far as relieving their suffering and prolonging their lives is concerned. He claims to be equally successful, if not more so, than those employing the surgical treatment. His treatment consists in establishing an intestinal asepsis as far as possible, and this he insures by means of intestinal irrigations and certain drugs. The cannula used should be rather long and have only one hole at the extremity. The irrigations should be daily, and consist of one litre (about 1½ pint) of a 10 or 20 per cent. tepid solution of **Naphthol**. At the same time he administers by the mouth the following mixture at each meal :—

℞ Salol, Benzo-Naphthol, Bicarbonate of Soda āā 5 grs.

Sig.—To be taken in the form of a cachet.

The bowels must be kept open by means of laxatives, if necessary, and a vegetable diet should be insisted on, with the occasional exception of some well cooked gelatinous kind of meat.

REFERENCES.—[1] Adler, "Med. News," Oct. 15, 1892 ; [2] "Med. Obozr.," xxix., No. 2, pp. 179, 180, 1893 ; "Nouveau Remedes," June 8. 1893 ; [3] "Sem. Med." ; "Bulletin Générale de Thérap.," Aug. 15, 1893 ; [4] Robinson, "Med. Age," June 10, 1893 ; [5] "Bull. Général de Thérap.," Dec. 8, 1892.

RENAL CALCULUS.

Stewart[1] has carefully noted the effects of **Piperazine**, and concludes that the condition of uric acid gravel and stone is the one most likely to receive substantial benefit from employment of it. Despite the

affinity of piperazine for uric acid, and the extreme solubility of its urate, little can be expected from it in uratic, chronic, multiple arthritic enlargement—at least from the usual daily dose of 15 grains. More promising results may be anticipated from much larger doses, such as 1 to 2 drachms exhibited over a continuous time, but it has yet to be determined whether such doses can be tolerated without injury. In cases of nephrolithiasis in which a cure is obtained it is not difficult to explain the result—by the marked disintegrating effect of the piperazine on the uratic calculi lodged in the pelvis of the kidney which it bathes in process of elimination ; 1 per cent. solutions of the drug in a test-tube have a decidedly solvent action on uratic calculi.

Viertel's [2] experience points to the value of the **Cystoscope** in the diagnosis of vesical calculus under specially difficult conditions, owing to prostatic hypertrophy.

Aug. Hermann [3] describes his experiences with **Glycerine** in nephrolithiasis, which he was induced thus to treat in consequence of the observation by Colosanti and others that glycerine both dissolves uric acid and passes through the kidneys unaltered. The author administered the liquid in doses of 1 to 5 cubic inches to fourteen patients, with the result that in ten cases the gravel and small calculi appeared in the urine. When the patient's digestive organs had been previously prepared and rendered healthy, not the slightest unpleasant symptoms were produced, but in patients suffering from gastric disturbances conditions resembling collapse became manifest. The glycerine produced marked thirst with lancinating and burning lumbar pains (unilateral when one kidney only was affected), leading to more or less renal colic, and it reappeared in an increased quantity of urine three hours after administration. Experimentally the author found that glycerine readily dissolves chemically pure granular uric acid, calculi, however, remaining unaffected. In animals large quantities led to marked polyuria, and he believes the favourable action to be mostly mechanical by flushing the renal pelvis, lubricating the passages, and causing diminution of the mucus, which is always abundantly present in cases of nephrolithiasis.

Desnos [4] criticises the treatment of vesical calculus in women, and the indications for the three methods at present in vogue—dilatation of the urethra, lithotrity and lithotomy, vesico-vaginal or hypogastric. The first is attended by one great drawback, viz., incontinence of urine. The operation is practised, as everyone knows, by dilators, either that of Guyon, Dolbeau, or the sound of Hegar, constructed for dilatation of the uterus. Two lateral incisions are made in the meatus and the instrument is introduced, the dilatation being effected

with great care in order to avoid ruptures. When fully dilated the finger is pressed slowly in and with great gentleness, and the position of the calculus well ascertained as well as its size. The crushing is generally easy, and when the fragments have been all washed out and the bladder irrigated with an antiseptic solution, the patient may be considered definitely relieved. Sometimes the incontinence lasts only a few hours, while at others days and months, and very frequently for ever. It is not the result of any special kind of instrument, nor either of the amount of dilatation, but of the constitution of the patient and the age. In young women he has seen incontinence gradually disappear, whereas after fifty years of age the infirmity becomes permanent, and that is the principal reason why he renounced, completely, lithotrity in women past middle life. Vesico-vaginal or hypogastric lithotomy is in general easy to perform ; the incision should be exactly in the median line and not too close to the urethra, as reunion is more difficult at this point. Immediate suture should be practised, but the mucosa of the bladder should not be comprised in the ligature. The hypogastric incision should be reserved for voluminous calculi, except in the case of virgins. M. Reliquet says that when dilatation of the urethra was made under chloroform the meatus should be freed all round by incisions into the fibrous attachments. Since 1871 he has employed this method, and he has frequently seen the bladder resume its tonicity, especially when the patient is of a robust constitution. M. Potherat thinks that lithotrity is the operation to be chosen in calculus of the female, unless the foreign body is too voluminous. The position of the uterus is of importance, as the stone is always found on the opposite side.

REFERENCES.—[1] "Therap. Gaz.," No. 1, 1893 ; [2] "Deut. Med. Woch.," April 6, 1893 ; [3] "Prager Med. Woch.," Nos. 47, 48, 1892 ; [4] "Medical Press," Dec. 21, 1892.

REYNAUD'S DISEASE.

Synopsis.—(Vol. 1893, p. 458.) Cates improved a case with Nitroglycerine, injecting $\frac{1}{100}$ gr., increased up to $\frac{1}{50}$ gr. three times a day.

RHEUMATISM.

Recent papers show a remarkable unanimity in recommending various thermal and physical measures for the relief and cure of rheumatism, and the view steadily gains ground that the disease is rather the expression of a constitutional debility than the result of the introduction of any specific materies morbi.

True, pathologists have not rested in their efforts to discover a micro-organism peculiar to the disease, and Sahli[1] in Germany,

and Lucatilli[2] in Italy, have shown specimens of bacilli which they have cultivated from the articular fluid of rheumatic patients.

From the clinical stand-point the micro-organism appears the least probable of all possible causes, and it is noteworthy that those who speak with some confidence, or even enthusiasm of the treatment of rheumatism, rely on those processes which increase the vital activity of the affected parts rather than upon the action of drugs.

The recently published investigations, made by Dr. Percy Wilde,[3] show that the direct disturbance of the ordinary physiological act of metabolism, caused by the depressing effect of exposure to cold and damp, excessive muscular or nervous fatigue, is sufficient to produce that acid state of the tissues and secretions which is the chief characteristic of rheumatism. The chief point of departure between our former knowledge on this subject, and the facts which have been derived from this investigation, is that the acids instead of being conveyed to the tissues by the blood are in fact manufactured in the tissues themselves, as a result of imperfect oxidation during the act of metabolism, and the blood is the direct agent in completing the process of oxidation and causing their destruction *in situ*.

The more active the circulation of blood in the tissues affected by rheumatism, the more speedily will the rheumatic process cease. This is in accordance with the clinical evidence presented by the use of hot baths, frictions, etc., in the treatment of the disease.

Dr. Wilde has further shown that the acid products resulting from imperfect metabolism are capable of combining with the tissues themselves, without material interference with their structure or function, the latter being simply depressed. This condition he describes as "asthenoxia" (see under this heading, p. 96).

To complete the process of metabolism, and cause the lactic acid combined with proteid matter to be transformed into carbonic acid gas, urea, and water, a very large quantity of oxygen is necessary, and a great demand is made upon the red blood corpuscles.

It is during this process that a still more acid product than lactic acid is developed, which acts as an irritant to the tissues, and may be regarded as the true rheumatic poison.

In healthy persons it is a mere transition product, speedily destroyed by the completion of the act of oxidation; in the feeble and anæmic, the process becomes almost continuous owing to defective supply of oxygen. This accounts for the long continuance of subacute cases of rheumatism associated with anæmia.

An interesting light has been thrown on the above facts by the investigations of Sir Alfred Garrod[4]. He finds that with the onset of

rheumatism the red blood corpuscles and the hæmoglobin diminish, and the diminution continues until the acute symptoms subside. As a rule the red blood corpuscles reappear as soon as the temperature falls, but sometimes the diminution continues after the normal temperature is reached. Wilde finds that in ordinary cases of rheumatic fever, the perspiration becomes neutral twelve hours before the temperature falls to normal, but when this is not the case, convalescence is delayed unless measures are taken to simulate the effects of fever.

These two observers have by different methods proved the connection between the oxygen carrying constituents of the blood and the rheumatic process. Wilde shows that while feeble oxidation may occur without the evolution of heat, the same process taking place in the same elements, only more vigorously, causes considerable elevation of temperature. He regards the fever of acute rheumatism as a sign of the active oxidation of the unoxidized products which have accumulated in the tissues, and as nature's own method of destroying them. He is therefore opposed to antipyretics and the use of salicylates, and has for the past five years treated all cases by raising the temperature of the body for thirty to forty-five minutes once or twice a day. The "hot blanket pack," or the vapour bath (applied to the patient while lying in bed), is used for this purpose.

He claims that under this treatment the pains are greatly lessened, convalescence is more rapid, and that patients are in better health after the attack than before it. In regard to permanent heart disease, secondary to the attack, he considers that it can only occur under rare conditions, and that the proportion of 7 to 10 recorded under salicylate treatment is quite impossible under the method he describes. As the use of heat involves free perspiration of the body, the question arises as to whether the act of sweating is not the direct cause of the removal of the acid products from the body.

The fact that in chronic rheumatic disorders the patient may be in a constant "bath of perspiration" for months at a time, without relief, and that the same patient will be immediately relieved by artificially raising the temperature of the body negatives this conclusion, and it is noted that the sweating is one of the first symptoms to disappear in patients treated by artificially raising the temperature.

The book contains a number of valuable clinical observations, and very detailed directions for carrying out the treatment which the author has used with such fortunate results.

Winternitz[5] contributes a valuable paper on the treatment of chronic rheumatic arthritis. He first adopts Drosdoff's method and passes a strong faradaic current through the joint for about ten minutes. A

tepid compress is then applied for twenty-four hours, when the application of the faradaic current is repeated. This with long continued friction is persevered with for fourteen days. Afterwards the alternate application of heat and cold is used to the joint by means of steam and sprays, "evaporation between blankets," and finally active and passive movements are rendered possible. In summing up the merits of cold and warm applications, the author recommends the former in the acute affection, substituting the latter sooner or later, according to the time of year and the extent to which it is necessary to harden the softened skin again.

Dr. Rose[6] records the remarkable results produced by the warm bath, in a case of arthritis affecting the left elbow joint. The arm was submerged in a warm bath, the bathing-tub consisting of an oval shaped wash-boiler. Some water was taken out hourly, and hot water added to keep the temperature as high as would be consistent with the patient's comfort. For the night, moist compresses covered with flannel bandages were substituted. Subsequently active and passive movements of the joint were employed, and the patient made a good recovery.

Dr. M. Schüller[7] recommends the use of the "Scottish douche" in chronic arthritic disorders of rheumatic origin. This consists in the rapid alternation of hot and cold douches.

[The author says the stream of alternate hot and cold water comes from the same nozzle, but in the "Scottish douche" proper, two nozzles are employed, so that the alternations can be made with great rapidity, which would be impossible when the same nozzle was employed for both streams.—ED.]

Dr. Schüller says that the Scotch douche has advantages in the fact that it can be regulated very easily as to temperature, that it can be borne by weak patients, and, above all, that it conveys a distinct mechanical effect, along with its thermal effect, upon the vessels and muscles. This treatment is ordinarily soon followed by a diminution of pain and an increased motility of the joint. Many cases can be kept for years in an endurable condition by this means which would otherwise be attended by great suffering. In cases that are marked by a relative immobility due to a shrinking and contraction of the capsule, but not due to true ankylosis, the Scotch douche, with an especially delicate massage and passive motion, will assist materially in the increase of mobility. The author has particularly observed this among those of his patients who have been affected in the wrist and ankle joints. The great susceptibility to pain which attends these cases will not permit of the most delicately applied massage, if the latter is tried without the douche; but with the combination these patients feel

better, walk or move the limbs with less difficulty, and experience much less pain so long as the treatment is continued.

Dr. Graham,[8] referring to lumbago, points out that its pathology is probably coagulation of the semi-fluid contractile muscular substance and adhesion of muscular fibrils, so that motion gives rise to partial irregular, and painful contractions. Retention of waste products occurs, the worst of these being uric acid. Recent cases of muscular rheumatism are almost invariably cured by a few massages. The same result may be brought about by rest, warmth, electricity, or the use of such drugs as **Salicylate of Soda** though not so rapidly. Graham suggests that when a case of apparent muscular rheumatism not only does not yield but does not remain improved after a few massages, the probability is that the case is one of neuritis affecting the nerve fibres that supply the impaired muscles. This probability would be strengthened when the pain is uniform, affecting the same muscles on both sides, when it is worse at night, when at rest and warm in bed, and better when up and moving about; whereas muscular rheumatism is aggravated by motion and relieved by rest and warmth. Massage may thus be used as a means of diagnosis between muscular rheumatism and neuritis.

Manalongo[9] considers that articular rheumatism is due to structural alteration of the ganglia of the anterior horns of the spinal cord, and recommends the use of **Hydrotherapy, Electricity, Massage,** and **Gymnastics** as the chief agents in the treatment of the disease.

Dr. Wallbridge[10] recommends massage for acute rheumatism, followed by active movements while the patient is in the supine position, and finally active exercises in the erect position.

The medicines recommended for rheumatism during the year are practically the various patented analgesics which only lay claim to a temporary removal of the pain. Analgen is one of the latest of these, and is chemically and therapeutically closely allied to antipyrin.

The following is recommended as a local application to the inflamed joint :—

℞ Salol, Ether āā 4 parts | Collodion 30 parts

Mix and apply to the joint.

Prof. Robin[11] whose independent observations lead him to the view that the treatment of rheumatism is a question of stimulating oxidation and rendering it as rapid as possible, proposes the use of oxygen inhalations. While theoretically this may appear the shortest way of stimulating oxidation, there is little evidence to show that any increase of the red-corpuscles, or of the oxidizing power of the blood and the tissues takes place as a result of oxygen inhalation. He also recommends

the use of sulphate of quinine as another means of increasing oxidation, but as a fact, quinine, like most, if not all the antipyretic remedies, checks metabolism in the tissues. Iodide of potash is another remedy recommended by the same author, which is calculated to be of service. He also recommends the use of mineral baths, massage, electricity, etc.

The local affection of salicylic acid, in the form of ointments and inunctions, has been put forward by several authors as beneficial.

REFERENCES.—[1]Sahli, "Deut. Arch. f. klin. Med.," p. 45, 1892; [2]Lucatelli, "Proceedings of Italian Congress," 1892; [3]"Rheumatism: Investigations respecting its Cause, Prevention, and Cure," London, J. Bale and Sons; [4]Sir Alfd. Garrod, "Med. Chir. Trans.," vol. 75, p. 189; [5]Winterwitz, "Blatt. f. klin. Hydrotherap.," No. 193; [6]Rose, "Med. Record," Oct. 29, 1892; [7]Schüller, "Arch. f. klin. Chir.," "New York Med. Journ.," Jan. 1, 1893; [8]Graham, "Amer. Journ. Med. Science," No. 2, Aug. 1893; [9]Manalongo, "Gaz. degli Opitale," Nov. 22, 1892; [10]Wallbridge, "Therap. Gazette," March, 1893; [11]Robin, "Rev. Gen. de Clin. et Thérap., July 5, 1893."

Synopsis.—(Vol. 1893, pp. 12, 25, 41, 44, 46, 49, 57, 458.) **Bromamide**, 10 to 15 grs., several times a day. **Euphorin**, 1 to 2 grms., in twenty-fou hours, for acute forms, and 1 grm. in 3 or 4 doses for chronic rheumatism. **Paracresotic Acid**, 3 to 4 grms., for acute articular rheumatism resembles salicylic acid in action.

Phenocoll, 4 to 15 grs., relieves pain in some cases of acute rheumatism, Hassan advises **Strontium Nitrate** for chronic rheumatism. **Vaccinium Vitis Idæa**, used in decoction 1 to 2 ounces fresh stems, with leaves and roots, in six ounces of water, this amount being given daily in divided doses, has given good results in chronic rheumatism. Hancock applies **Carbolic Acid** 4% solution on warm flannel. Brodhurst uses **Mercurial Ointment** for gonorrhœal rheumatism, applying it on lint to the joints, and brings the patient under influence of **Mercury** by inunction, and when swelling is gone, passive motion is used. Guttman uses **Salophen** in rheumatism, giving 5 to 6 grms. daily in pill or tablet.

RHEUMATOID ARTHRITIS AND GOUT (Differential Diagnosis of).

Sir Alfred B. Garrod, M.D.

The study of articular affections some thirty years ago led me to the conclusion that the majority of the cases then called "rheumatic gout" were related neither to true gout nor true rheumatism, and that they had an independent pathology of their own; and, if such is the case, the term "rheumatic gout" was doubly wrong. I must confess that even before I proposed to change the name of the disease it struck me as very peculiar that there should be such a compound malady; it would have appeared to me no more surprising to hear of scarlet-fever-measles or any other combination of diseases. I proposed the name of "rheumatoid arthritis"—a name which does not imply any error, but assumes the disease to be an arthritic or joint disease having some of the external characters of rheumatism—and the name has of late years been very extensively used, nor should I wish to alter it, although

I allow that a better name may one day possibly be found. Arthritis deformans has been applied to the malady, and this again is not an erroneous name, though in the earlier stages of the disease it is by no means a characteristic one. The term "rheumatic arthritis" is nearly, or at least half, as bad as that of "rheumatic gout," as it implies the existence of one error instead of two. I am not aware of any two joint affections which are so frequently mistaken for each other as gout and rheumatoid arthritis, and I know of no errors of diagnosis which have led to so much mischief; nor is it difficult to understand why such terrible results are apt to follow, seeing that both the medicinal and dietetic treatment so useful in the one disease may prove most injurious in the other.

For practical purposes I have included under the above heading a comparison of the leading characteristics of rheumatoid arthritis and gout, together with a short account of the non-articular forms of the latter disease, and some outlines of treatment.

Gout.	Rheumatoid Arthritis.
1.—The blood contains uric acid markedly in excess.	1.—No excess of uric acid in the blood, or other specific morbid condition of that fluid.
2.—The tissues of the affected joints exhibit deposits of crystalline bi-urate of sodium, this deposition being the cause—not the effect—of the inflammation.	2.—None of the affected tissues show any deposit of uric acid.
3.—The inflammatory process is attended by the destruction of the previously deposited urates.	3.—The inflammatory process affects the articular cartilages, producing ulceration from the very first, and denudation of the bony surfaces.
4.—Non-articular parts may be implicated, *e.g.*, skin, kidneys, muscular, digestive and circulatory systems.	4.—Only the joints are affected.
5.—Affection of great toe almost pathognomonic.	5.—In about two-thirds of the cases the articulations of the jaw and cervical vertebræ are affected, and this symptom is valuable in diagnosis.
6.—Males most frequently affected.	6.—Females much more liable than males.
7.—Heredity strongly manifested.	7.—Hereditary tendency very slight.
8.—More frequent after forty years.	8.—May occur at any age, usually between fifteen and thirty.
9.—Largely influenced in production by full diet and use of alcoholic beverages.	9.—Diet and beverages which improve the strength tend to lessen the affection.
10.—The invasion (in early stages) is usually sudden.	10.—The onset is insidious, characterized by gradually increasing physical weakness and languor.

In the non-articular manifestations of gout, which are far more numerous and frequent than I was formerly disposed to admit, and which are perhaps less frequently found in hospital practice, the parts most commonly affected are the following :—

(a,) The Skin.—Now and then, in gouty conditions, we find different varieties of erythema. It may, however, be questioned if this cutaneous affection is more frequent in gout than in many other diseases—it is certainly much less common than in rheumatism. Eczema, on the other hand, is the skin disease which is so characteristic in gouty subjects ; it frequently occurs before any articular manifestation, and becomes relieved by its occurrence ; but it often remains during the course of the joint disease, and at times continues for an almost indefinite period afterwards. It is not uncommon to meet with eczema in the children of gouty parents, even when they are still quite young. On the other hand, it is often the bane of gouty subjects in the latter years of their lives. The production of eczema is doubtless a means of getting rid of uric acid from the blood ; but, contrary to what might have been at first supposed, the fluid of eczema contains no urates. This is easily explained, for each vesicle, the product of inflammation, causes the destruction of the acid, which is converted into other products. I have as yet failed to discover uric acid either in the liquid exudation of acute eczema or in the scales from the surface of the dry variety.

(b,) The Kidneys.—The kidneys are perhaps equally as liable to be attacked, but certainly not so early in the disease as the skin. Traces of albumen are most common in the urine of gouty patients, often most minute in quantity, but still indicating the presence of some gouty action, and of a deposit of urates in the intertubular structures. In the early stages I frequently found albumen to be quite absent during the complete intervals of gouty attacks. With regard to the occurrence of gravel and calculus, it may be remarked that some gouty subjects are troubled with calculi, and the children of such are rather liable to this malady. My friend, Sir William Roberts, has well said in his recent Croonian Lectures that "many gouty people are never troubled with gravel, and conversely that many subjects of gravel are never troubled with gout. In both complaints there is an aberration of uric acid; but the error is essentially different in the two cases, both in regard to its site and to its nature." Albumen in the urine is doubtless often caused by a gouty change in the kidney; but, on the other hand, albuminuria from any cause will certainly predispose to the production of a gouty state of the system.

(c,) Muscular System.—The voluntary muscles are often affected

in gout in the form of cramps, and this symptom can sometimes be made use of as a diagnostic mark. Nothing is more common than to find patients complaining of cramp in the calf of the legs and feet early in the morning for days and weeks before the commencement of an attack of joint affection, which passes off at once when the articular inflammation comes on. My experience would lead me to think that the involuntary muscles are not very frequently affected in gout. The heart is supposed to be so at times, but true spasm in an otherwise healthy heart it has not been my lot to become acquainted with. Lumbago and other forms of the so-called muscular rheumatism are very frequently associated with a gouty state of the system.

(d,) Digestive Organs.—For weeks, months, and even years, before an attack of gout in the joints, it is not unfrequent to find patients suffering much from indigestion, usually of an irritative character, often accompanied with much flatulence, pain, red tongue and hæmorrhoids—symptoms indicating that the mucous membrane of the stomach is slightly inflamed, and that the portal vessels are in a state of congestion. I have also thought that gouty patients are very liable to have a loaded state of the colon and fulness of the liver; but whether this condition is more common in gouty than in other subjects I could not positively say. When gout has been induced by the mode of living it is probable that the whole portal system has been also disturbed by the same cause. The throat, nose, prostate gland and testicles are at times implicated in gouty patients. Sore-throat is exceedingly common, and often alternates with other manifestations of the disease. The tonsils usually exhibit a peculiar purplish colour, without showing any appearance of acute soreness. In a very few cases I have seen the end of the nose unmistakably affected by gout, causing great inconvenience and suffering. The prostate gland is not unfrequently attacked, and its gouty character can be easily seen after a time by the quick subsidence of the symptoms, especially if a large joint becomes inflamed. In several cases I have seen one or both testicles attacked with gouty inflammation.

(e,) Circulatory and Respiratory Systems.—There is a very prevalent idea in the profession, as well as amongst the public, that the heart is often attacked by gout, and there are records of many men, some of considerable eminence, who have died suddenly from this cause. I have never myself seen acute pericarditis or endocarditis brought on during an attack of articular gout. Doubtless the subjects of gout very frequently have chronic valvular disease, as the causes which induce gout lead also not uncommonly to slow valvular changes.

In the early stages of gout the diagnosis is, as a rule, very easy:

the suddenness of its invasion, often during the night ; the acuteness of the pain ; the joint most frequently affected ; the short duration of the attack, usually not more than ten days ; the history of the case as to diet, and more especially as to the character of the alcoholic beverage ; the presence or absence of hereditary predisposition—these taken together are usually sufficient to ensure a correct diagnosis.

In the moderately advanced stages of true gout, when chalk stones are visible either on the helix of the ears or bursa of the elbow or other parts, it is difficult to see how any error of diagnosis can be made, for urates are never deposited except in true gout. I must direct attention to the fact that deposits often occur in the external ear before they are visible in other parts of the body, and this may become very important in diagnosis. In many cases I have been materially assisted by attending to this pathognomonic sign.

There are, however, cases of true gout occurring in elderly people, more especially in women—they often affect the knee or other large joint—in whom the inflammation is by no means acute, but the joint remains a long time affected. These cases are difficult to diagnose correctly. The effect of treatment in such cases assists greatly in the diagnosis. The fear, however, is usually not that true gout may be mistaken for rheumatoid arthritis, but that cases of this latter disease may be looked upon as of a gouty character. This error is infinitely more common and infinitely more serious than the other. Let us take as an example the case of a young woman who is suffering from inflammation of the ankle, wrist or hand, with little, or at any rate no great, constitutional disturbance. From my experience cases of this kind are constantly looked upon by many practitioners as of a true gouty nature, and are treated accordingly. Moderate attention to the character of true gout and of rheumatoid arthritis would enable anyone to form a correct diagnosis. In such a case we should in all probability fail to find evidence of any hereditary predisposition, or of any habit of the patient likely to lead to gout—for instance, the absence of eczema, cramps, kidney mischief, and other gouty symptoms. We have, in fact, an alteration in one or more joints which, as far as we can make out at present, constitutes the disease. The treatment is usually of the following character : Abstinence from meat (red meat especially), sugar and all alcoholic beverages. Many patients are not allowed vegetables, and fruits are often altogether prohibited. As far as medicinal treatment is concerned, salines, iodide of potassium, and colchicum are most frequently administered. Under this treatment, accompanied as it frequently is by long immersion in baths, the invalid almost invariably gets worse, new joints become affected, and not infrequently the patient becomes gradually crippled.

TREATMENT.—In the treatment of rheumatoid arthritis all lowering measures must be carefully avoided. Tonics, *e.g.*, **Iodide of Iron**, with perhaps small doses of **Arseniate of Sodium** added; **Sulphur** daily in small doses, and **Cod-liver Oil** are indicated. Colchicum, guaiacum, iodide of potassium, salines, and other depressing drugs, so useful in true gout, are absolutely injurious. A generous diet of meat, bread, vegetables and claret should be insisted upon The question of baths requires careful consideration—Turkish and other vapour baths must be put aside, not on account of their action on the skin, but as tending to induce prostration, against which we must guard in every possible way.

RHINITIS.

For the removal of crusts from the nasal cavity, Dr. Blœbaum[1] twists a long and thin roll of cotton on to a knitting-needle, introduces it into the nose, and withdraws the needle, leaving the cotton in the nose. A second and third roll are introduced thus, until the entire cavity is filled. Then one may begin with the opposite side and do likewise. In the course of a quarter of an hour, the mucous membrane begins to secrete profusely, and if the cotton is then removed, it will be found that it is saturated with secretions, and the crust lies on the cotton, thus leaving a nicely cleaned cavity for the application of the remedies.

Kuttner's[2] method for the treatment of ozæna is by the use of tampons frequently changed; and for cleansing purposes, a steam spray of solution of **Bicarbonate of Soda** was found the most useful solvent of hardened secretions.

Spengler[3] employs **Alumnol** in 5 per cent., and **Diaphtherin** in ½ to 1 per cent., solutions in ozæna. The easy solubility of the latter drug, and its extraordinary antiseptic properties, lead him to regard it as a valuable addition to rhinological therapeutics.

Monin[4] advises the use of the following snuff in chronic rhinitis:—

℞ Menthol	Lithium Carbonate	
Citric Acid	Powdered Benzoin āā	eq. pts

Sig.—5 or 6 pinches daily for each nostril.

Schnitzler uses the following powder for insufflation in ozæna:—

℞ Sodii Benzoat.	Picis Liq.	gt. v
Iodoform āā 5iij		

M. Ft. pulv. Insufflate daily.

REFERENCES.—[1] "Med. Record," Nov. 12, 1892; [2] Kuttner, "Therap. Monat.," Mar., 1893; [3] Spengler, "Münch Med. Woch.," No. 13, 1893; [4] Monin, "Merck's Bulletin;" "Med. Age," Oct. 25, 1892; Schnitzler, "L'Union Médicale."

RICKETS.

Vierordt believes that absorption of lime is not decreased in rickets. He was able to render the proportion of lime in the urine quite constant in both healthy and rachitic children by feeding them on a similar diet. Baginsky confirms this observation.

REFERENCE.—"Berlin. klin. Woch.," May 15, 1893; "Deut. med. Woch.," May 11, 1893.

SALPINGITIS.

Dr. Paul Mundé divides the conservative treatment into two sections :—

(1,) The palliative, including the forms of treatment by which it is intended to cure the inflammation or empty the distended tube without any dangerous operative procedure, that is, without opening the abdominal cavity.

(2,) Those methods which necessitate abdominal section and the attempt to restore the normal calibre and normal relations of the tubes.

Acute inflammation of the tube is treated on the same general principles as acute peritonitis. When it becomes subacute mild applications of **Iodine** and **Glycerine**, equal parts, may be made to the vaginal vault, accompanied by glycerine tampons. Daily warm **Sitz Baths** at 105° F. for half an hour may be given, and **Blisters** applied over the abdominal skin on the affected side.

All the operative conservative methods of treatment imply an abdominal section, but the tubes and ovaries are not removed unless they are irretrievably diseased, but if attached they are freed from their adhesions, and small cystic degenerations or cystic Graafian follicles may be treated by the Paquelin cautery or excision.

Theoretically, Mundé suggests the liberation of the tubes, the expression of their contents into the uterine cavity, the insertion of a syringe into the fimbriated extremity, and the injection of a 1—15000 **Bichloride Solution** through the tube into the uterine cavity.

REFERENCE.—"Amer. Journ. Obstet.," July, 1892.

SARCOMATOSIS CUTIS. *T. Colcott Fox, M.B.*

The favourable effects of the internal administration of **Arsenic** in sarcomatosis cutis continues to be recorded by various authors. Thus Sherwell reports the favourable effects of continued and increasing doses in retarding dissemination and development of sarcomatous tumours. Touton also puts on record a case diagnosed by him as multiple sarcoma with a leukæmic or pseudo-leukæmic basis. In a year the man had almost completely recovered under the use of arsenic.

Kaposi, whose experience of certain forms of sarcoma is very large, establishes a distinction between the multiple idiopathic pigmentary sarcomata (Kaposi's type), the ordinary melanotic sarcoma, and the unpigmented multiple sarcomata of the skin. The latter form only is in any degree amenable to arsenical treatment.

REFERENCES.—Sherwell, "Amer. Journ. Med. Sci.," Oct., 1892; Touton, "Münch. Med. Woch.," Jan. 10, 1893 ("Brit. Med. Journ."); Kaposi, "Vienna Soc. Dermat.," Jan. 11, 1893.

SCABIES. *T. Colcott Fox, M.B.*

Stelwagon, of Philadelphia, gives the following treatment as suitable for a dispensary case: (1,) Take a soap and hot water bath, using any good toilet soap, or for thick skins a sulphur or green soap; (2,) Rub in energetically the following ointment from the chin downwards, directing special attention to the more affected parts, and not neglecting the back :—

℞ Sulphur Sublimat. (ʒss for the young)	ʒj	β-Naphthol (omitted for the young)	grs. xxx—lx	
Balsam. Peruv.	ʒj	Adip. Benz. vel Ung. Petrolei ad		ʒiv

(3,) Put on clean linen and bed linen, and boil those which are soiled; (4,) Repeat the ointment application six times at intervals of ten or twelve hours, wearing meanwhile the same linen; (5,) Finally take another bath and make a complete change of linen about half a day after the last application; (6,) A sulphur powder may be dusted in the bed or other places likely to harbour the parasite; (7,) All outer clothing to be subjected to a high temperature or hung out in the air or sun.

Fournier in a lecture expounds the St. Louis treatment which he says is prompt and sure and will bear repetition. The patient strips naked and rubs himself from neck to foot during half an hour with black soap. During a second half hour he gets in the bath and continues his frictions. Then leaving the bath he coats the surface with Helmerich's ointment. The patient dresses and remains thus coated for twenty-four hours, and next day takes a bath. The clothes are subjected to a heat of 110° in a stove. The method is rather rough, but all but 3 or 4 per cent. are cured by the one course. Fournier contrasts this treatment with that employed in the Vienna hospitals, where they prefer a slower method which entails a stay in hospital for three to five days for men and five to seven days for women. They employ the following ointment :—

℞ β-Naphthol	15 grammes		Chalk	10 grammes
Black Soap	50 grammes		Lard	100 grammes

Snegürsky advocates a treatment by **Benzine.**

Ohmann-Dumesnil speaks highly of the following, which certainly does not convey the idea of a very promising treatment :—

℞ Hyposulphite of Sodium | Distilled Water āā ℥vj

The solution is allowed to evaporate on the skin. When dry the patients put on clean linen and fresh clothes. In the evening before going to bed the following lotion, or if too strong a diluted one, is applied :—

℞ Dilute Hydrochloric Acid ℥iv | Distilled Water ℥vj

REFERENCES.—Stelwagon, "Med. News," Sept. 23, 1893 ; Fournier, "Journ. des Connais. Med.," Aug. 10, 1893; Snegürsky, "Med. Oboz.," No. 23, 1892.

SCARLATINA. *Henry Dwight Chapin, M.D., New York.*

Dr. Jamieson[1] considers that as soon as peeling manifests itself, simple warm or tepid sponging must be supplemented by the addition of a soap which will aid epidermic exfoliation. The one most suitable has been invented by Dr. Eichhoff, of Elberfeld. It is a **Superfatted Hard Soap**, containing 3 per cent. of resorcin and 3 per cent. of salicylic acid. Some of the soap is rubbed on a piece of wet flannel, which is used to wash the entire body once daily, but the palms and soles can be washed twice. Inunction with a medicated antiseptic oil is also employed.

Dr. Wiglesworth[2] employs **Carbolic Acid** as a prophylatic in scarlatina. Whenever a case originates, he at once puts all those in the house who have not had the fever on carbolic acid--2 grain doses twice a day. In a large number of cases the outbreak has been confined to the one first affected.

REFERENCES.—[1] "Med. Magazine," May, 1893 ; [2] "Brit. Med. Jour.," Feb. 18, 1893.

. [*Editorial.*

The safest and most valuable drugs according to Dr. Hershey are **Digitalis** and **Ammonium Carbonate**—the former for its diuretic effects, and the latter for combating cardiac complications immediately they occur. The most common error is laxity in the treatment of the throat. Cases do better when thorough cleansing is carried out every half hour than when two or three hours are allowed to elapse between the applications. In the desquamative stage frequent washing with 5 per cent. **Hydro-naphthol Soap** hastens the peeling process and prevents contagion. The soap is used twice or thrice daily during the first week of desquamation, and once a day for ten days longer.

[The routine use of diuretics which Dr. Hershey seems to favour is open to question, although he qualifies his advice by remarking that the

use of the above remedies is indicated in proportion to the amount of septic absorption from the throat.—Ed.].

Reference.—Hershey, "Med. Age," Sept. 11, 1893.

Synopsis.—(Vol. 1893, pp. 41 and 461.) **Paracresotic Acid**, 5% aqueous solution with a little **Glycerine**, makes a good wash for the skin. **Peroxide of Hydrogen Spray**, 1 part to 4 of water, for the fauces, 1 to 8 for the nares, used hourly; or, **Corrosive Sublimate**, 2 grs. to pint of water, used every two hours within non-poisonous limits, are recommended. Smith uses the following for the nostrils: ℞ Ac. Borici ʒij, Sodii Boratis ʒij, Sod. Chloridi ʒj, Aq. Puræ Oj, M. Sig.—A teaspoonful to be injected into each nostril hourly. Henoch advises **Ice** or **Cold Bath** to combat cerebral symptoms; cold applications over great vessels of neck abstract heat, and sponging the limbs with **Alcohol and Water**, or **Vinegar and Water**, also assists. Lewis Smith recommends **Aconite** and **Phenacetin** as antipyretics, but neither should be used in extremely malignant cases with feeble pulse and dusky skin.

Fruitnight advises **Aconite**, 3 minims every three hours, but for a child eight years old ⅓ of the dose, and ½ of it for one twelve years old; he obtained good results from ½ gr. doses of **Phenacetin** for children eighteen months old, and 1 gr. doses from three to five years of age, repeated every two or three hours, and accompanied by alcoholic stimulants. Phenacetin should not be used if there is marked depression. In malignant cases, with frequent and feeble pulse, cardiac tonics and stimulants, *e.g.*, **Digitalis**, **Musk**, **Camphor**, the **Carbonates** or **Aromatic Spirits of Ammonia**, and the **Alcoholic Stimulants** are indicated. Joynt advises syringing nares every three or four hours with a strong solution of **Boric Acid** in **Glycerine**; also painting the ulcerated parts with **Boro-glycerine**, or **Glycerine of Iodine** (1 in 7), or **Glycerine of Thymol** (1 in 10 to 50). Jamieson advises **Carbolic Acid**, 3% in ointment or oil to assist desquamation. The use of **Resorcin Salicylic Superfatted Soap**, with warm water, materially shortens desquamation.

SCIATICA.

Græme M. Hammond, M.D., New York.

Mann[1] has made a study of forty-seven cases of sciatica of the ordinary form, and six cases complicated with scoliosis. His conclusions are: (1,) Sciatica is frequently accompanied by paresis, not only of the muscles supplied by the great sciatic nerve, but also of those innervated by other branches of the lumbo-sacral plexus; (2,) The paretic muscles, as a rule, are only slightly atrophied, and exhibit little or no morbid change when stimulated by electricity; (3,) Should the paresis reach the erector spinæ muscles, typical scoliosis, with the convexity pointing towards the affected side ensues; (4,) In sciatica the pain may be only one sided, and yet a bilateral motor paresis may exist. In such a case should the erector spinæ of the non-neuralgic side be involved, it is possible for a homologous scoliosis to occur—*i.e.*, a scoliosis with the convexity directed towards the non-neuralgic side; (5,) If the sciatica is accompanied by a bilateral paresis of the abdominal muscles, as sometimes occurs, lordosis may follow, a condition which may be called ischias lordotica.

Gibson[2] analyzes one thousand cases of sciatica as follows: 84·4 per cent. occurred in males. In one hundred cases he made special use of **Acupuncture.** The treatment consisted of absolute rest, Buxton waters, and acupuncture of the nerve itself in several places, with a spear-shaped needle, two and a half inches long, the object being to obtain relief of tension in the nerve sheath and absorption of the exudation. This treatment gives little relief in chronic cases and none at all in cases secondary to rheumatoid arthritis. Of the one hundred cases fifty-six were cured, thirty-two much improved, ten improved, and two not improved at all.

REFERENCES.—[1] "Amer. Med. Surg. Bull.," Nov. 1893; [2] "Ibid."

[*Editorial.*

Dr. Weir-Mitchell[1] expresses the opinion that in the sciatic nerve, more often than in any other, does functional disorders due to malaria, gout, rheumatism, syphilis, anæmia, etc., pass on to organic disease of the sheath. He points out the necessity for a thorough pelvic examination to discover growths or other tumours exerting injurious pressure. He recommends in mild and early cases **Dry Cupping** by means of about three dozen instruments planted over the great sciatic notch, and down the back of the thigh and leg in a triple row over the nerve. They are kept on for half-an-hour, and reapplied next day. A free application of **Mustard and Molasses** over this area may be adopted. If these measures fail, the limb is firmly bandaged from foot to groin to lessen the amount of blood in it. It is reapplied twice a day, together with a side splint reaching from axilla to groin. After a time passive motion is carefully used, and in about three weeks the splint is applied only at night. Finally it is entirely removed, the bandage being still retained and gentle massage used between each application after pain has disappeared. The patient must not sit during the first week of getting up, but must stand or walk, and that only with crutches. Massage and electricity are rarely necessary. Full diet, cod-liver oil and iron, if needful, must be given; straining at stool should be prevented by warm enemas if constipation exist.

The following is a useful formula[2]:—

℞ Pulv. Opii Pur.	grs. xij	Ext. Cascar. Liq.	q.s.
Pulv. Ipecac. Ver.	gr. xii	Sod. Salicyl.	ʒiss

M. Ft. Pil. duodecim. Sig.—1 or 2 pills for a dose.

By this pill free action of the skin is induced, pain relieved, and the bowels kept open.

Dr. Charles Lawrence[3] gave **Nitro-glycerine,** 1 minim, three times a day of an alcoholic 1 per cent. solution, increasing the dose up to

5 minims. In one case relief was experienced from this drug after failure of all other remedies, except morphia.

REFERENCES.—[1] "Med. Chronicle" Abs. from "Med. News," July, 1893; [2] "Asclepiad," No. 38, vol. x; [3] "Amer. Pract. and News."

Synopsis.—(Vol. 1893, p. 464.) Gundrum advises use of **Wet Cups** along the nerve, specially over the seat of pain, keeping patient in blankets and encouraging perspiration, and the limb straight, but he does not use the straight splint. Weir-Mitchell strongly advises **Long Splint** to secure absolute rest, and if not sufficient, daily **Cauterization** at the points of pain is recommended; if still obstinate, an **Ice-bag** is placed on the part day and night for two or three weeks.

SCROFULA. *Henry Dwight Chapin, M.D., New York.*

Dr. J. Sommerbrodt[1] recommends **Creasote** in doses of 1 drop three times a day to begin with, and then gradually increased until 7½ to 10½ grains daily have been reached. For children of seven years and upwards it is easy to reach 15 grains daily, either in drops or in capsules holding 1½ drops of creasote with cod-liver oil. Creasote should always be given immediately after a meal, and must be continued many months beyond the apparent cure.

REFERENCE.—[1] "Berlin. klin. Woch.," 1892, No. 26.

SEA SICKNESS.

Dr. Van Valzah[1] points out that the week before sailing is commonly one of excitement, dissipation, and worry. All preparations for the voyage should be completed several days before going aboard; the bowels regulated by laxatives, the secretions righted and supplemented if requisite, elimination kept free, and a plain, easily-digested, and easily-assimilated diet should be adopted. In a general way the sweets and starches should be limited, and lean meats made the staple food. But the age, activity, peculiarities, habits, the needs of general nutrition, the capability of the digestive organs, must all be taken into consideration in the selection of the diet.

During the first forty-eight hours it is advisable to remain in bed and sleep as much as possible. The effort to maintain equilibrium is diminished, the confusion through the sight of moving objects is limited, the life of relations is "cabined and confined," consciousness is diminished at last. Four light meals should be taken a day, and very little fluid drank. The danger of a mechanical hyperæmia of the nerve centers by excessive muscular tonicity forcing the blood out of the musculo-venous reservoir will be obviated. The only drink should be a single cup of hot water with each meal. The same simple and regular and temperate way of living and eating must be observed throughout the passage.

The treatment during the attack is quite different in the anæmic and hyperæmic varieties.

When hyperæmia is present, the influence of the exaggerated reflex muscular tonicity can be diminished by voluntary muscular movements, which require muscular relaxation as well as contraction for their performance. The vertical position is an advantage. A hot foot-bath will also draw the blood away from the nerve centres, as keeping the feet in very hot water for some time has produced syncope. A very powerful effect can be produced by placing the hands and feet in hot water and applying ice to the head and spine. Counter-irritation is a procedure of questionable utility. **Caffeine** will suppress the sense of central fatigue. **Antipyrine** or **Bromide of Sodium** by the rectum may be of some use.

In the anæmic stage such drugs as must be absorbed to produce an effect should be given hypodermically. **Atropine** is the best drug to stimulate the paretic sympathetic, but **Nitroglycerine** must be given simultaneously to dilate the arterioles. **Strychnine** and **Natro-benzoate of Caffeine** also meet obvious indications. **Ergotin,** on account chiefly of its action on the urine, is also valuable. The judicious use and combination of these five remedies will meet the indications from the side of the muscular, nervous, and circulatory systems. Whisky (and food also) may be required by the rectum. The horizontal position, with the head low, should be persistently maintained. The vomiting will also be favourably influenced by the preceding drugs. Copious draughts of hot water to wash out and soothe the stomach is a remedy of very great value. Frequently repeated and small doses of **Creasote,** with **Lime Water** and an infinitesimal quantity of **Ipecac.,** may be effectual. **Oxalate of Cerium,** in 5-grain doses every hour for three or four administrations, is another good remedy.

A widely known method of diminishing the action of the exciting cause is by the use of the bromide of sodium, which must be pushed to its full physiological effects and the influence kept up during the entire voyage. The neuro-muscular disorder is controlled, and sensory perception, both peripheral and central, is dulled. The drug influences favourably the simple vertigo ; prevents the development of the hyperæmia ; but it intensifies the misery of the anæmic form. The large doses usually upset the stomach, and the drug irritates all the organs by which it is eliminated. The bromides when pushed to the point of poisoning often exert a persistent and pernicious influence on the nervous system.

Professor Charteris[2] has recommended the use in sea sickness of a mixture containing equal quantities of **Chloralamide** and **Bromide of**

Potassium. Under the head of **Chlorobrom**, a solution of these two substances made palatable and stable has been prepared, in which each ounce contains ½ a drachm of chloralamide and ½ a drachm of bromide of potassium. Charteris recommended the use of chlorobrom in doses of ½ an ounce to 1 ounce in sea sickness.

Dr. Graily Hewitt[3] attaches much importance to visual disturbances in the causation of the malady. For individuals who are easily made sick, he advises that on short voyages of a few hours the eyes should be bandaged carefully and the recumbent position maintained from the commencement and throughout the journey.

REFERENCES.—[1]Van Valzah, "New York Med. Journ.," Aug. 13, 1892; [2]"Lancet," March 6, 1892; [3]Hewitt, "Brit. Med. Journ.," Oct. 1, 1892.

SMALL POX.

Dr. Edward Pepper[1] considers that **Cocaine** antidotes the poison of small pox and varioloid, and that in these diseases toleration is quickly established for the drug, and that to a marked degree. A 4 per cent. solution is used, of which a drop for every year of age is given four times a day, or pastilles each containing $\frac{1}{24}$ grain, with or without **Pepsin**, may be given. The hypodermic method may be adopted if all others are precluded, the dose being ¼ of the quantity given by the mouth. Usually topical treatment is rendered unnecessary, but **Boric** or **Salicylic Acids** may be employed locally if required.

Costé[2] attempts to abort the variolous pustules by a mask consisting of three layers of **Boric Lint** soaked in **Boric Lotion**, and over this another mask of some waterproof material, the whole being retained by a gauze bandage. The masks are applied directly the eruption appears, and continued until the crusts fall off, being kept moist by spraying on the lotion every four or five hours. The inflammation rapidly subsides under this treatment, and from the centre of each pustule a drop of greenish pus is exuded. On the fourth or fifth day only a fine epidermic layer of brownish colour is left, which separates in five or six days, leaving no scar and rarely any pigmentation.

REFERENCES.—[1]Pepper, "Amer. Journ. Med. Scien.," March, 1893; [2]Costé, "Bull. Gén. de Thérap.," No. 16, 1892.

SNAKE BITE.

The value of chlorine as an antidote to cobra venom has been negatived by Dr. Vincent Richards's[1] recent experiments. He finds that any action it is capable of exerting is purely of a local chemical character, and even from this point of view it has many disadvantages when compared with the less irritant **Permanganate of Potassium.**

In viperine poisoning the hypodermic use of **Strychnine** has met with considerable success.[2]

Banerjie[3] describes the four varieties of scorpions and their comparative toxic powers. The author's experience of forty-six cases of scorpion sting shows that in all cases the joint above the part stung was almost stiff, and in some there were febrile symptoms with severe headache. Ten of the cases were treated with **Ipecacuanha Poultices,** as text-books recommend, but only with transient benefit, as, in addition, **Chloroform** had to be used in stupes. This relieved all pain, but the erysipelatous swelling of the affected parts remained, and continued in severe cases for seventy-two hours, requiring still further treatment. In two cases chloroform alone was used and gave instant relief, but swelling remained in this instance likewise. In five cases **Hydrate of Chloral** pure and simple was rubbed into the part. It answered well, relieving pain instantly, and with this remedy there was no subsequent swelling. The action of chloral was, moreover, less evanescent than that of chloroform. In order to use it in a more convenient and more rapidly absorbable form it was liquefied with the addition of camphor (3 parts of chloral and 1 of camphor), and to render its action still more rapid the part was punctured with a pin or needle before its application. **Menthol-camphor** and **Butyl-chloral-camphor** were also found efficacious. Without wishing to deprecate the value of other methods, this treatment, which was found successful in twenty-seven cases, will probably have a more extended trial from the profession in the tropics, in order that its value may be determined and its efficacy established.

REFERENCES.—[1] "Richards, "Indian Med. Gaz.," July, 1892; Banerjie, [2] "Lancet," May 28, 1892; [3] "Therap. Gaz.," March, 1893.

Synopsis.—(Vol. 1893, p. 466.) **Strychnine,** in fairly large doses, repeated frequently until its physiological action is established, is advised by Mueller. Calmette endeavours to neutralize the venom by subcutaneous injections of **Gold,** but this is doubtful.

SNEEZING (Paroxysmal). (See "Hay Fever.")

SPASTIC PARALYSIS.

Synopsis.—(Vol. 1893, p. 466.) Scudder points out that drugs, electricity, braces, all fail, and advocates **Division of Tendons** near the muscular attachments where contraction exists.

SPERMATORRHŒA. *Græme M. Hammond, M.D., New York*

For this condition Dr. Peterson[1] recommends **Cold Sitz Baths,** from five to twenty minutes daily at bed times, at a temperature of from 50° to 70°. This treatment is contra-indicated in sexual irritability and active pollutions, in which cases prolonged warm or hot sitz baths at 90° to 98° should be used.

Pamjoukes[2] has treated eleven cases with the **Testicular Juice** of rabbits and cocks. In every case a cure was rapidly secured. The substance was injected hypodermically.

REFERENCES.—[1] "American Lancet;" [2] "Therap. Gaz.," Feb. 15, 1893.

[*Editorial.*

Dr. Reed[1] reports that in his hands **Cimicifuga**, 10 to 30 drop doses after meals, has cured seminal emissions. The following formula[2] is also recommended :—

℞ Ext. Aloes gr. iij | Ext. Hyoscyami gr. iv
Ext. Belladonnæ gr. ij | Pulv. Camphoræ gr. iv
M. Ft. pilulæ No. xii. Sig.—1 pill every night.

REFERENCES.—[1] "Med. Record," July 1, 1893; [2] Ibid.

SPINA BIFIDA. *William Thorburn, B.S., F.R.C.S.*

Hildebrand[1] contributes to the annual congress of German surgeons an account of the pathology of this affection. From an examination of twenty-seven preparations he classifies the following varieties in order of severity : (1,) Complete cleft of the bones, dura and pia mater, spinal cord and soft parts (rachischisis postica). As a result of exudation the tissues may be pushed backwards, the pia being everted so that its inner surface forms the outer surface of the sac, the cleft cord lying on it as a "medullary-vascular" area, and hence causing a depression where the intact cord joins it above ; (2,) The dura and bones are cleft, but the cord, pia and arachnoid, are intact. Exudation may thus occur in the cord (myelocystocele), in which case no nerves lie in the sac (this is the syringomyelocele of English writers) : or it may intervene between the pia and arachnoid (meningocele), in which case there may be nerves in the sac ; (3,) The cord and all its membranes are intact, but the bones are cleft, in which case either the dura alone or both dura and arachnoid may project, each sub-variety being again a meningocele. Thus Hildebrand does not agree either with Recklinghausen's view that in all cases there is at least a cleft of both bones and dura mater, nor with that of others who hold that in all cases the bones alone are cleft.

As the differential diagnosis of these various forms is difficult or impossible until after the sac is opened, Hildebrand advocates treatment by incision. He would leave as hopeless all cases with extensive paralysis. In meningocele he would excise the sac, replacing nerves in the canal, and suturing the membranes. In myelocele he advises a lateral incision into the sac to allow of exact determination of the position of the nerves ; where these run freely through the sac we are to cut round the medullary-vascular area with the nerves, replace

them in the canal, and remove superfluous sac wall. If, however, the nerves run in the wall of the sac it is impossible to cut round the vascular area without injury to them, and in such cases the entire meningeal sac must be freed, replaced and covered by skin flaps. As a rule exudation will not recur. When there is extensive vertebral defect, a covering is obtained by a flap of skin and muscle, or skin, muscle and bone. Finally we have an analysis of thirteen cases (ten meningoceles and three myelocystoceles) operated upon in König's clinic, of which three died from the operation, and one did not live long after being discharged from hospital. Eight of the children (including two with myelocystocele) were completely cured, but the third case of myelocystocele died three months after operation, with recurrence and great hydrocephalus.

M'Cullagh[2] reports a case of cure of a spina bifida by the use of frequent injections of Morton's fluid, which was apparently injected into the parietes only of the sac, and not into its cavity. The case was one of lumbar meningocele, with nerves running through, but not attached to the sac.

Powers[3] advocated treatment by the open method, rather than by the use of Morton's fluid, finding from his statistics a mortality of 22·5 per cent. for the first, and 26 per cent. for the second method.

Rochet[4] records an interesting and successful case of cure of a cervical spina bifida by excision and osteo-plastic covering, the flaps being formed by breaking the bases of the affected arches, and bringing them together. He strongly urges operative treatment.

REFERENCES.—[1] "Centralb. f. Chirurg.," 1893, Suppl.; [2] "Brit. Med. Journ.," vol. i., p. 413, 1893; [3] "New York Med. Record," July, 1892; [4] "Archives Provinciales de Chirurg.," vol. i., p. 537.

John Ridlon, M.D., Chicago.
Robert Jones, F.R.C.S., E.

Bobroff[1] of Moscow, dissected away the sacral mylo-meningocele, cut away edges of bony groove, and detached a piece of bone from the crest of the right ilium, fixing it over the spinal canal by sutures. It held firmly and a distinct amelioration of symptoms resulted.

Frederick Treves,[2] in his treatment of spinal and other tubercular abscesses, advocates incision through healthy skin, if possible, at the most dependent part, washing out with hot sublimate lotion, 1 in 5000, with large quantities of the lotion, scraping the walls with the finger and Volkman's spoons, then rubbing the walls with small hard turkey sponges held in holders.

Silkworm gut sutures are used to close the incision, no drainage tube being used. The dressings are cotton wool dusted with iodoform.

He instances many cases of this treatment with good results.

REFERENCES.—[1] "Centralbl. fur Chir.," June 4, 1892; [2] "Lancet," May 21, 1892; Ibid., June, 1892.

SPINAL ANÆMIA (Syphilitic).

Synopsis.—(Vol. 1893, p. 469.) **Forced Feeding** by small quantities of concentrated fluid food should be practised every two hours by day, and every third hour by night, until patient has gained at least ten pounds; then gradually change to solid food; 3 to 4 ounces of **Whisky** may be used in twenty-four hours. When nutrition is advancing, 5 drops saturated solution **Iodide of Potassium**, well diluted, may be given after meals, and if well borne it should be increased to 10 drops; if not well borne 30 drops **Aromatic Spirits of Ammonia** may be added to each dose. Give **Iodides** for six months, and then **Mercury** in tonic doses for six more. **Strychnia** and **Phosphorus** are indicated, the former hypodermically, $\frac{1}{60}$ gr. three times a day. **Iron** is not well borne until improvement is marked. Hypnotics are injurious, and **Massage** at bedtime is better. **Suspension** is of benefit for thirty seconds at first, gradually extended to five minutes daily. A jacket will assist in keeping spine at rest. Spinal **Ice-bag** relieves pain in lumbar region and atonic impotence, and may be used from twenty minutes to an hour. Daily exercise when strength allows; careful use of **Opium** for bone pains, avoiding chloral and bromides.

SPINAL CORD (Surgery of the).

Prof. E. Sonnenburg, M.D., Berlin.

The operation that solely claims our attention, in respect to the surgery of the spinal cord, is that of trephining the vertebral column. The earliest proposal of the kind was made, so far back as the seventh century B.C., by Paulus of Ægina. He suggested the removal of splinters of bone pressing upon the cord. In the year 1744 Louis by this means cured a paralysis, in the case of an officer suffering from the effects of a gunshot wound of the spine. Gurlt collected twenty-one instances of the performance of the operation. In seventeen of them death ensued, nor was recovery complete in the four cases that survived. In the American War of Independence, twenty-four cases of gunshot wounds of the vertebral column were treated by the removal of fragments of bone, yet of these ten succumbed. Werner, of Strasburg (1879), continued Gurlt's statistics. Of the thirty-one cases collected by him, seven survived; but the paralyses in no instance disappeared, nor did the trophic disturbances get better. Most surgeons, except in America, ceased to perform the operation.

It is only within the last few years that trephining the column has been once more advocated, and that the results obtained have improved. Successful operations have been reported, for example, by McEwen,[1] Lauenstein,[2] Thorburn,[3] Keetley,[4] and Dawbarn. Then Schede[5] achieved a successful result in a case of injury of the fifth and sixth dorsal vertebræ; and Lampiasi records two observations of

the kind, with one recovery. Urban in detailing a new method, an osteo-plastic resection of the column, to the Surgical Congress of 1892, pleaded for secondary operation, having in one recent instance obtained distinct improvement. Its progress was still under observation.

(I.) *Trephining of the Vertebral Column after Injury.*—The idea of improving the gloomy prognosis in cases of injury to the spine is of great moment, and, as we have already seen, attempts to relieve the cord in cases of fracture were early made, and have been frequently repeated. Nevertheless, with regard to the question of trephining for fracture, there has been a general feeling of hesitation, partly because it is but in a certain proportion of the cases that we can hope to gain anything by operating, and partly on account of the difficulty that exists, at least for the present, in singling these out from amongst the larger number in which interference is of no avail. The diagnosis of the nature of the injury, especially within the first few days after the accident, when operation would be of most service, is always difficult, and is too often impossible. We should not however resort to operation, except where there is a clear indication for the step.

If the cord be completely crushed, so that possibly the meninges alone hold it together, or, if it be cut transversely through, or shot in twain—if, that is to say, the nerves given off below the seat of injury are severed from their connexion with the brain, then the effects of the injury are immediately present, and do not again disappear. It is otherwise in cases of compression of the spinal marrow. Here, too, the most severe manifestations of paralysis may set in immediately after the accident; but if it be possible to remove sufficiently soon the source of pressure, the symptoms will pass off. If we are in a position to diagnose compression of the cord, the indication for operating is thereby furnished. At the thirteenth Surgical Congress (1884), two severe instances of fracture of the twelfth dorsal vertebra were reported by Wagner. Both presented much the same phenomena, including complete paraplegia, and both died in the course of three or four weeks. At the *post mortem*, there was found in the one case a laceration of the cord at the seat of fracture; in the other, however, merely compression of the cord, due to the displaced fragment; yet the clinical symptoms had been almost identical.

In a paper "On the Recognition of Fracture of the Cervical Portion of the Vertebral Column," I[6] have shown that, owing to the firm structure of the column, symptoms of fracture may be lacking, and yet important injury, involving the cord also, may nevertheless be present. In that paper, I further pointed out that comparatively

slight injuries, as, for instance, the separation of its cartilage from the surface of the fifth vertebra (an occurrence that could alone be suspected on feeling a projection at the level of the fifth cervical vertebra when examined through the mouth) may be accompanied by fatal injury to the cervical portion of the cord ; whilst in another instance the displacement of the cartilage may evoke no symptoms whatever. A most remarkable case of very severe damage to the cervical vertebræ, extensive fracture of the bodies of the sixth and seventh bones, with impaction and flexion, of which I had a drawing made, ran its course without disturbance to the cord, and ended in complete recovery. From such instances it may be gathered that the symptoms of fracture of the column may, according to circumstances, be of widely differing character, and are in greatest measure due to the nature and extent of any accompanying injury to the cord. Such injury may be merely an effusion of blood, or it may, in serious cases, involve complete destruction. It may thus happen that one and the same kind of fracture may, according to its extent and complications, in one instance produce practically no clinical symptoms whatever, whilst in another it is associated with extensive paralyses. At any rate, from the nature of the fracture, no inference in regard to any possible accompanying injury to the cord can be drawn. So, too, under certain conditions, paralysis may set in late, whilst in other cases it may be present from the first, and in the course of time disappear, as occurs where the compression due to extravasation of blood is but temporary.

Whilst from what has been stated it follows that the diagnosis of fracture and of any accompanying injury to the cord is in the greater number of cases difficult, or even impossible, so also the associated concussion may further complicate the clinical picture. In such cases the greatest caution is needed in the interpretation of clinical symptoms, for just as a fracture may get well without leaving serious disturbances behind, so on the other hand the severest forms of myelitis may follow concussion without fracture.

If, then, in view of the difficulty of the diagnosis of spinal fracture the query be put as to what is to be expected from operative interference, it must also be remembered that the cases are extremely rare in which pressure is caused by displaced fragments of bone. At the moment of injury compression of the cord often takes place, whilst in consequence of its elasticity the spinal column itself escapes intact. Under such singular conditions it is exceedingly difficult to state the indications for the operation of trephining. The operation stands, in fact, in a position resembling that of laparotomy. We must either

explore every case of fracture, and see whether there be any pressure on the cord such as can be relieved, or we must hold to the standpoint that so long as we have made no distinct diagnosis, and can therefore have no distinct indication, we should refrain from interfering. I should myself be rarely disposed to depart from this principle. In the first place, when in a case of fracture due to direct violence a marked displacement could be made out, and paralysis were immediately present, in such a case I should regard the attempt to improve the prognosis by trephining as justified. Then in cases in which compression of the cord by blood extravasation were to be presumed from the late occurrence and incomplete degree of the paralysis, and on account of tedious progress towards improvement or arrested progress, it might appear desirable to endeavour to relieve the cord. It may, of course, be rightly objected that by trephining we can but expose the posterior surface of the cord, and that the direct relief of pressure, acting, as it generally does, on the anterior surface, is hardly possible. It appears to me somewhat doubtful whether this point may be answered by suggesting that in many cases of encroachment on its lumen the simple opening of the canal does relieve the cord and annuls the symptoms of pressure. The further question, whether operation undertaken several weeks after injury can improve existing paralysis and other disturbances, must at present be left undecided, for want of cases in point. But I think that in this direction we must not expect great results, for in all probability the cord, when once disorganized, is not susceptible of regeneration, and the continued compression gives rise to incurable transverse lesions.

I am unable, therefore, to give my assent to the indications for trephining the spine in cases of fracture, as they have been laid down by some.

It is only to a certain extent, for instance, that I can subscribe to such views as those formulated by Thorburn[7], based on his own experience, and a survey of recorded cases, which are as follows :—

(1,) In cases of complete destruction of the continuity of the cord operation is obviously futile ; in injuries by sharp, and especially by cutting instruments, and in cases of simple compression of the cord, very considerable improvement may be expected.

(2,) Operation yields the most successful results in cases of injury to the cauda equina. These injuries do, however, sometimes get well spontaneously, so that caution should be exercised in observing their behaviour. Should the spontaneous improvement after, say, six weeks come to a standstill, or should no sign of improvement manifest itself during five weeks after the injury, operation is indicated.

(3,) In cases of simple fracture of the vertebral arches prompt surgical measures are indicated. (Péan obtained recovery after removal of ten splinters which had been driven against the cord.)

(4,) Even though the operation should extend over several vertebræ trephining does not weaken the spinal column.

With regard to the last statement (section 4) I would observe that trephining is by no means to be held to be an insignificant proceeding. In some instances the sufferings of the patient may, it is obvious, be increased, even though pain be amongst his symptoms. The frequent change of dressings, rendered necessary by the profuse secretion, may indeed exhaust his strength.

Amongst those opposed to the operation in cases of fracture the views of Burrel[8] deserve especial respect, since his opposition to operative interference is based upon extensive statistics. In Boston City Hospital the mortality of eighty-two cases of fracture of the spine amounted to 78 per cent. About half of those who survived were eventually able to take up some suitable employment. Of the cases reported by Burrel operation was resorted to in five, but in no instance was life preserved. In one case of quite recent fracture of the twelfth dorsal vertebra Burrel, by the application of a plaster jacket after suspension and reposition, obtained so favourable a result that he distinctly prefers this method of treatment, in suitable cases, to operation, though the method has risks of its own.

All that has been said in regard to fracture applies also to gunshot wounds of the vertebræ. Victor Wagner[9] records a successful case, in which the body of the ninth dorsal vertebra had been fissured by a revolver bullet. Bleeding took place into the spinal canal, the blood underwent resorption, and yet the paralysis showed but slight improvement. Circumscribed inflammatory processes set in, with adhesions between the dura mater and the bone, leading to compression of the cord, which it was alone possible to relieve by trephining. Eventually the patient became able to walk, with the aid of sticks.

In the American War of Independence twenty-four cases of gunshot wounds of the spine were treated by the removal of fragments of bone, and out of these ten succumbed notwithstanding.

(II.) *Trephining the Vertebral Column for the Extirpation of Tumours.*—Tumours of the spinal membranes and of the spinal canal, within and without the dura mater, are of various kinds : lipoma, sarcoma, ecchinococci, fibroma, glioma, myoma, carcinoma.

In all forms the prognosis was unfavourable, since even the benign growths proved fatal by pressure on the medullary substance. The

diagnosis of such tumours is difficult and often impossible ; the treatment until within a few years was purely symptomatic. Horsley, in the year 1887, performed the first operation of this kind. He extirpated with complete success a fibro-myoma of the cord, at a level corresponding with the fourth, fifth, and sixth cervical vertebræ. All paralysis disappeared within twelve months. A second case was reported by Lloyd[10] and Deaver, who operated for an effusion of blood into the cervical cord. The paralysis was not removed, and death occurred suddenly within three days, the fatal result being attributed to injury of the origin of the phrenic at the time of operation. By trephining and excising a lymphangioma cavernosum, which had caused pressure on the cauda equina, Rehn[11] effected a cure in the case of a young mechanic coming of a healthy stock. His violent pains were relieved. The patellar reflex returned, and the patient was enabled to undertake light work. Although no further cases of removal of tumours from the canal are reported, Horsley has without doubt opened up a new region to operative surgery, and one hitherto outside the scope of treatment of any kind.

(III.) *Trephining of the Spine for Spondylitic Paralysis.*—Inasmuch as the tissues dealt with in these cases are diseased, operation presents still greater difficulties. The extent and the importance of the disturbance is, however, rarely to be made out beforehand, so that in consequence of the removal of the diseased parts the spinal column may be more seriously damaged than could have been foreseen. Moreover, the condition of the cord after long-continued compression is as difficult to ascertain as after injury.

Since Percival Pott, in 1779, taught us to recognize kyphosis of the spinal column, to which the name *Malum Pottii* has ever since clung, the pathogenesis of the paralysis presented in cases of spondylitis has been a matter of study. Olivier (1827) attributed the paralysis directly to pressure from the diseased vertebræ, this leading mechanically and immediately to interruption of conduction. The fact that in the greater number of cases of spondylitic paralysis examined *post-mortem* no transverse changes were to be recognized at the point of pressure, as well as the circumstance that the cord was often the seat of changes without antecedent compression, led, however, to an attempt to explain the paralysis in another way.

The changes in the cord were by Charcot and by Michaud attributed to inflammation spreading from the vertebræ originally affected *(myelitis tuberculosa).* Leyden preferred to explain the myelitis as resulting from irritation produced by the diseased portions, which he thought acted as foreign bodies similarly to tumours in the canal.

This irritation is, however, purely mechanical ; it is but a question of pressure caused by the masses of tuberculous *débris*, and acting in part upon the vessels of the spinal cord and partly upon the cord itself *(myelitis e compressione)*. The view held by Erb supposes an acute, direct compression to arise, and he, moreover, inclines to anti-phlogistic treatment.

If we pass under consideration the theories mentioned, together with the results of the numerous laboratory experiments made in order to throw light upon the question, we may come to the following conclusions :—

(1,) The paralysis is seldom the consequence of direct compression of the cord, for this structure has the power of accommodating itself to a certain extent to the altered form of the canal, as is seen in extreme scoliosis.

(2,) The paralysis is rarely due to myelitis tuberculosa ; the œdema (inflammatory and congestive œdema) of the cord leading to paralysis is usually due to caseous masses and pachymeningitis externa.

(3,) Œdema may exist for some time without producing serious changes in the cord ; later, sclerosis sets in.

Thus the spontaneous disappearance of the paralysis, and the simultaneous appearance of abscesses, may find explanation. Operation could only be of service where the paralysis owned a mechanical origin.

Of late years many surgeons have endeavoured to relieve the spinal column in cases of spondylitis. Attempts, more or less successful, have been placed on record by Israel, McEwen, Thorburn, Lane, Dercum, Chipault, Horsley, and Kraske. The various operations were performed, however, under such very different conditions, and their number is as yet so small, and the time for observing their ultimate effects still so short, that it rather seems advisable to await further experience than to attempt to draw from them any general conclusions.

In more than half the cases some impression was made on the paralytic phenomena, a fact that would seem to favour the view that their origin is to a large extent of a mechanical character.

To judge from such experience as is available, cases of paraplegia without involvement of the bladder, when not amenable to other treatment, justify operation. According to McEwen, the results are on the whole better, and the prospects of success greater, in young persons than in the old. The after-treatment is naturally of great importance. It does not culminate in rendering the spinal column immobile, but includes massage and faradization of the affected

muscles, since electricity and good nutrition are all important for success.

REFERENCES.—[1]McEwen, On Surg. of Brain and Cord; "Centralbl. für Chirurgie," 1888-1893; [2]Lauenstein, Ibid., 1886, No. 51; [3]Thorburn, A case of trephining the spine for compression of the cord, "Brit. Med. Journ.," 1887, No. 665; [4]Keetley, Dawbarn, "New York Med. Journ.," vol. xlix., p. 711; [5]Schede, Mittheilung v. Rieder in den Jahrbüchern d. Hamburger Staatskrankenhäuser, 1890; [6] Sonnenburg, Luitoügu zun Kunntni p dun Halruninbulbnüefn Deutsche Feitzchuits für Chirurgie, Bd. 34, p. 395; [7] Thorburn, A Contribution to the Surgery of the Spinal Cord, London, Griffin and Co., 1889; [8] Burrel, "Boston Med. and Surg. Journ.," Aug., 1887, p. 169; [9] Regiments-arzt Dr. Wagner, Ueber die Trepanation d. Wirbelsäule, "Wiener Klinik.," 9 Heft., Sept., 1892; [10] Lloyd and Deaver, "Journ. of Nervous and Mental Dis.," vol. xiv.; [11] Rehn, "Deutsche Gesellschaft für Chirurgie," xx., Congress, 1891, p. 97.

William Thorburn, B.S., F.R.C.S.

Wagner[1] is a strong advocate of trephining of the spine in all cases of injury, accompanied by definite symptoms of compression or contusion of the cord, and he holds that operation should be undertaken in every such case as soon as the symptoms of shock have passed away. It is to be regarded as primarily exploratory, and as curative if any "compression or a lesion" of the cord be found. A personal observation is recorded, the case being one of gunshot wound, seen three months after the injury, involving the middle dorsal region, and causing incomplete and spastic paralysis of both lower limbs, violent cramps, increase of reflexes, slight interference with sensation, paralysis of bladder and rectum, marasmus, and slight prominence of the ninth dorsal spinous process. There was found on operation only a thick connective tissue between the dura and the ninth dorsal vertebræ, with a slight fissure in the latter. Great improvement followed, and seven months after the operation the patient could walk with two sticks. Several other recent cases are quoted. A very satisfactory case of trephining for fracture is also recorded by Villar.[2]

Chipault[3] discusses the possibility of resecting and suturing a crushed section of the spinal cord, and concludes that the operation is impracticable. [The personal clinical experience of the writer has sufficiently convinced him of its impossibility.] In clean sections Chipault suggests that suturing of the pia mater might be practised, and gives directions for the performance of the operation, which, however, appears to the writer to be of very doubtful utility.

Caponotto and Pescarolo[4] record an interesting case of removal of an intra-spinal tumour. The patient, a man aged thirty-three, was severely shaken by jumping from a height when about six years old. Eighteen

months later he suddenly lost power in his legs for a few minutes, but hereafter had no further symptoms until he was twenty years of age. He then began to suffer from intermittent intercostal pains, chiefly in the fourth, fifth, and sixth interspaces, followed by hyperæsthesia and then by patches of anæsthesia of the lower limbs; spasmodic gait and difficulty of micturition ensued. For eleven years he was completely paralysed, and on coming under observation had paraplegia, great increase of deep reflexes, anæsthesia extending to the level of the fifth intercostal space, partial paralysis of the bladder, and some cystitis. The arches of the second, third, fourth and fifth dorsal vertebræ were removed, the dura incised, and a tumour easily shelled out. No trace of spinal cord was to be seen. The patient made a good recovery, *quoad vitam*, but showed no improvement in symptoms. The growth was a rounded whitish mass lying within the dura, extending from the third to the sixth dorsal vertebræ, and consisting of fibro-sarcomatous tissue with myxomatous elements.

Ziemssen and Quincke[5] urge the value of paracentesis of the spinal meninges as a means of reducing pressure in cerebro-spinal meningitis, hydrocephalus, cerebral tumours and spinal meningitis. For this operation, according to Quincke, the patient lies on his left side with the lumbar spine well flexed; a needle is cautiously introduced between the third and fourth, or fourth and fifth lumbar spines, being passed to a depth of 5 c.m. (two inches). The therapeutic results are of course temporary only, but often marked, including relief of headache, and frequently mental improvement. The nature of the fluid is an aid to diagnosis, it being turbid in meningitis; its rate of flow depends on the tension, and we may have a distinct jet, or only slow dropping. The operation, carefully performed, is free from danger or inconvenience.

REFERENCES.—[1] "Wiener klinik.," Sept. 1892; [2] "Sémaine Médicale," April 5, 1893; [3] "Revue de Chirurg.," August, 1892; [4] "Riforma Medicina," Nov. 1892; [5] "Neurologisches Centralblatt," May. 1893.

SPINE (Surgery and Injuries of). (See "Spinal Cord.")

SPRAIN.

Dr. Gibney successfully carried out Cotterell's plan of strapping the ankle. The method is as follows: He first cuts strips of rubber adhesive plaster about half an inch in width, and long enough to completely encircle the foot. Then, with the foot well raised, he strapped it, the ankle, and the lower third of the leg, with these strips, very much as if he had had an ulcer to treat. The first strip was carried over the outer side of the foot from near the base of the little toe. The

second strip crossed the first, the third lapped over the first, the fourth overlapped the second, and so on, until at the conclusion he had practically constructed a Scultetus's bandage of adhesive strips extending far enough to include the lower third of the limb. Over this he placed a cheese-cloth bandage to help the plaster strips to adhere to one another and to make the dressing more tidy. The patient was told to put on her stocking and shoe, and to walk about the room. The walking was accomplished with some diffidence, but with no real difficulty. She was made to walk the next day, and went out shopping without any bad results. The recovery was without relapse, and the usefulness of the ankle-joint was unimpaired.

M. Labbée speaks of the markedly satisfactory result which he had obtained by the use of 1 drachm of **Salicylate of Soda** in twenty-four hours for a tibio-tarsal sprain. The following morning there was no pain, and in four days there was complete cure. His results were equally good in several cases, whether or not the rheumatic or arthritic diathesis was present.

REFERENCE.—"Medical Age," Oct. 10, 1892.

SPRUE.

In a letter dated May 14, 1893, Dr. Chas. Begg, of Hankow, China, reports to us the satisfactory results attending the use of **Santonine,** as originally recommended by him in the treatment of this disorder. The necessity for the employment of the yellow crystals is still insisted upon, as the white prove utterly useless. But Dr. Begg requests us to correct his statement in the 1892 volume of the "Annual" to the effect that sunlight will no longer act on the drug as at present supplied; on the contrary, he finds that strong sunlight will in the course of a few days change the colour of the crystals from white to yellow, and, —whatever may be the explanation of the chemical process—the former inertia disappears, and the remedial powers of the drug are thereby developed.

STOMACH (Surgery of). *A. W. Mayo Robson, F.R.C.S.*

An excellent review of the surgery of the stomach, as practised in Germany, will be found in the "Annals of Surgery" for April and June, 1893, the mortality for resection for carcinoma in the Heidelberg Clinic being given as 41 per cent. One very interesting case is mentioned where Loreta's operation, and afterwards pyloroplasty, failed to cure a cicatricial stenosis of the pylorus, which was afterwards cured by resection, the patient being now strong and well four years after the last operation. In the same review is also reported a case of Kreige's, in which a perforating ulcer was successfully sutured, the abdomen

being cleared of blood and stomach contents by means of sterilized compresses.

In the "British Medical Journal" for May 6, 1893, is also reported a case by Mr. Gilford, in which drainage without closure of the opening, almost led to success, the patient surviving the operation for thirty-one days.

Mr. Gilbert Barling[1] reports a case in which the same procedure resulted in complete recovery.

It is most important that those who have to deal with such cases at the time of rupture, should not only be able to recognize the fact of perforation at once, but that they should grasp the fact that immediate operation offers almost the only chance of recovery.

In connection with the diagnosis of gastric ulceration, Dr. Samuel West gives the history, in the "British Medical Journal" for April 8, 1893, of a series of cases of so-called latent gastric ulceration where the most characteristic symptoms of hæmatemesis and pain were absent. There are practically three classes of cases: (1,) Sudden perforation into the general abdominal cavity with rapid collapse; (2,) Perforation into the lesser peritoneal cavity, with sub-phrenic abscess; and (3,) Perforation leading to sub-phrenic abscess with subsequent general peritonitis owing to secondary rupture.

Perhaps, however, a more simple division may be given by dividing perforating ulcers into two classes. In the first, where the ulcer bursts into the general peritoneal cavity, and if immediate operation be not undertaken death ensues rapidly.

In the second, a local peritonitis precedes the rupture, and a localized peritoneal abscess forms. In such cases recovery has occurred without operation, but if the abscess can be discovered it should certainly be opened and drained.

Dilatation of Stomach and Severe Pain Depending on Pyloric Adhesions.—It is perhaps not sufficiently recognized that extreme dilatation of the stomach may depend on adhesions of the pylorus to the under surface of the liver without there being any actual contraction of the pyloric aperture. We[2] reported before the Clinical Society two cases of this kind which were apparently cured by simple separation of the adhesions.

Gastropexia.—M. Poncet[3] advocates, in all cases of malignant stricture of the œsophagus, the preliminary suture to the abdominal parietes of the anterior wall of the stomach, so that when the time comes that the patient is unable to swallow, the operation of gastrostomy may be completed without risk and loss of time.

A new method of performing gastrostomy is advocated by Frank,[4]

which consists in making an incision parallel to the costal arch, drawing forward a 4 cm. flap of the anterior wall of the stomach and uniting the base of this to the serous surface. Then a 2 cm. incision is made through the skin at the upper part of the costal arch. Between this and the first incision is a bridge of skin, under which a suture is passed and the stomach flap drawn under this flap of skin and fixed to the opening at the upper part of the costal arch. The wound at the lower part of the costal arch is closed. More efficient closure of the fistulous opening is the advantage claimed for the operation.

Gastro-Enterostomy.—A further experience[5] with my decalcified bone bobbin shows that the operation can be completed efficiently in a very short time, and the continuity of the mucous membrane through the fistulous aperture minimizes the after contraction.

Mr. Mansell Moullin[6] reports two cases treated by Senn's plates and the bone bobbin respectively, and compares the advantages of the different methods.

Mr. Paul[7] has invented a modification of Senn's method, which, however, he has as yet only tried on dogs.

Fig. 54.

The bone ring charged with silk sutures and needles.

"The operation is performed as follows: The abdomen is opened and the first part of the jejunum is found and brought out of the wound in the usual way. A small incision is made into the bowel, where it can be applied to the lower and back part of the stomach without the least tension. Through this small wound the bone ring is slipped into the bowel, the needles are passed as in *Fig.* 55 and the opening is temporarily closed. Next a cut of about an inch and a quarter in length is made in the front wall of the stomach opposite to the spot where the inosculation is desired, and the four needles are passed in regular order through the transverse mesocolon and posterior wall of the stomach and are brought out of the front opening (*Fig.* 56). When they are drawn tight of course the intestine is firmly applied to the back of the stomach, and by cutting off the needles and tying the ligatures tightly, as in *Fig.* 57, the included discs of bowel and stomach are strangulated between the ring in the former and the ligatures in the latter. Whilst the parts are still held forwards by the ligatures the centre of this area

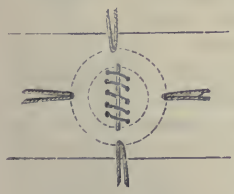


Fig. 55.

Bowel with ring and sutures *in situ*, and opening temporarily closed.

may be cut out with a tenotomy knife, thus at once effecting a communication between the two viscera. Then the ligatures are cut short, the parts are allowed to drop back into position, and the opening in the front wall of the stomach is closed by a double row of fine green cat-gut sutures, by a continuous row in the mucous membrane, and by Lembert sutures in the outer coats. Finally, the stomach is turned up if possible, and a few Lembert sutures are applied on the outskirts of the inosculation to retain the parts in position when they lose the support of the ligatures by sloughing on the second day. These sutures are much more important in this than in Senn's operation; but if they cannot be used owing to fixation of the organ by cancerous infiltration—and it must be a very bad case in which none can be passed—the patient must be kept very still for at least a week. Such additional support is less urgently needed when the intestine is applied to the back than when it is applied to the front of the stomach, as the tension in the former case is much less; but it should never be neglected. The abdominal wound is always closed with deep sutures of fishing gut including all the tissues from the peritoneum to the skin."

Fig. 56.

Sutures passed on through the posterior wall of stomach and brought out of anterior opening.

In order to overcome the difficulty of regurgitation of the bowel contents into the stomach, Braun[8] has performed entero-anastomosis at the same time as gastro-enterostomy, connecting the two limbs of the loop of intestine that has been attached to the stomach. Out of six cases thus treated three recovered.

Fig. 57.

Sutures tied and portion marked A strangulated.

Postiknow,[9] of Moscow, delays the opening between the two viscera until the third or fourth day by avoiding incising the mucous membrane, the opening being formed by the constriction by a silk thread tied tightly. He considers the method safer.

REFERENCES.—[1] "Brit. Med. Journ.," June 17, 1893; [2] "Lancet," Oct. 21, 1893; [3] "Mercredi Medical," March 13, 1892; [4] "Wien. klin. Woch.," Dec., 1892; [5] "Brit. Med. Journ.," April 1, 1893; [6] "Lancet," Aug. 19, 1893; [7] Ibid., July 15, 1893; [8] "Arch. fur. klin. Chir.," Bd. 45, Hft. 2; [9] "Centralb f. Chir.," No. 49, 1892.

STOMACH (Disorders of).

Max Einhorn[1] says: Direct **Gastrofaradization** ordinarily increases gastric secretion, even during the first period after electrization.

The absorbent faculty of the stomach is considerably accelerated directly after the gastro-electrization (faradization and galvanization).

Direct gastro-electrization is a potent agent in the field of chronic (non-malignant) diseases of the stomach.

Gastrofaradization appears especially useful in most cases of dilatation of the stomach and enteroptosis ; further, in atonic conditions of the cardia (ructus) and pylorus (presence of larger amounts of bile in the stomach), and in chronic gastric catarrh (gastritis chronica glandularis).

Gastrogalvanization is almost a sovereign means for combating severe and most obstinate gastralgias, no matter whether their origin is of a nervous nature or caused by a cicatrized ulcer of the stomach.

Gastrogalvanization exerts also a favourable influence on several affections of the heart complicated with gastralgia.

Gastric Ulcer.—The use of **Nitrate of Silver** in this affection is not new, but the method of Boas [2] presents some novel features. He never prescribes this drug in pill form, but in solutions, the strength of which is rapidly increased. In the first week a tablespoonful of a ·2 to 120 solution is given three times daily ; in the second week a ·3 to 120 solution is used, and if the leading symptoms have not quite subsided, the strength is raised to ·4 to 120. The dose is diluted with a wineglassful of water, and taken on an empty stomach, after which a weak salt solution is used for a gargle to remove the metallic taste. The diarrhœa which sometimes results from this treatment is seldom checked, as it is probably beneficial, since in the majority of these cases constipation is a leading feature. One of the principal advantages claimed for this treatment by Boas is that it can be carried out without keeping the patient in bed.

For the most rebellious cases of round ulcer, Boas finds the plan recommended by Drs. McCall and Erson and Donkin to answer best, viz., a ten to fourteen days' absolute **Abstinence from Food**, except per rectum. An enema is given every three hours, containing half-a-pint of milk, two egg-yolks, one teaspoonful of table salt, one tablespoonful of red wine (or port or whiskey, etc.), one tablespoonful of flour. Boas rarely requires to employ this treatment for more than fourteen days to secure success.

According to Dr. C. Edron[3] (of New York) **Glycozone** is an excellent remedy in cases of gastric ulcer, gastric catarrh, and dyspepsia. Two teaspoonfuls of this drug are given in some water one hour before meals in cases of gastric ulcer, or immediately after in cases of gastritis and dyspepsia.

The remedy is given in the form of an enema, viz. :—

℞ Glycozone ℥vjss | Warm Water ℥x ℥v

This may also be advantageously employed in chronic inflammation of the rectum.

Cardialgia.—Russmend[4] employs **Bismuth Subnitrate** as follows : The stomach is first washed out, and then 10 to 20 grains of bismuth in warm water are introduced, the patient being kept quite quiet for half-an-hour afterwards, after which food may be taken. This process is repeated at first daily, then on alternate days. Even old and inveterate cases are much relieved by this procedure ; no toxic symptoms arise ; starchy food is much better borne, and acidity greatly diminished.

Cancer of the Stomach.—Dr. Brissaud[5] (Paris) has employed **Chlorate of Soda** in daily doses of ℥ij to ℥iv in five undoubted cases of cancer of the stomach with great success. The hæmatemesis and the melæna ceased, the appetite returned, the cachexia disappeared, and in three cases in which an epigastric tumour was present this disappeared completely in about six weeks after the commencement of the treatment. During four years that he has resorted to this mode of treatment he has not lost a single case of cancer of the stomach proper. Other doctors have had similar experiences—*e.g.*, Nélaton, Havot, Le Gendre.

REFERENCES.—[1]Einhorn, "New York Medical Journal;" "American Lancet," August, 1893 ; [2]"Med. Record," June 17, 1893 ; [3]"Berlin. klin. Woch.," No. 22, 1893 ; [4]"Le Progrès Médical," Sept. 30, 1893 ; [5]"Bulletin général de Thérapeutique," Sept. 15, 1893.

Synopsis.—(Vol. 1893, p. 482, 483.) Desnos uses **Solanin** in painful gastric affections, 5 centigrammes half an hour before meals, and when pain is acute it is given in a gummy solution. In nervous affections, arsenic, quinine, ergot, belladonna, physostigma, and phosphorus are uncertain, and **Bromides** are perhaps best. Ewald employs **Chloral** in hyperæsthesia of stomach, and **Opium** in intestinal irritation, avoiding saline purgatives. **Cocaine** acts favourably as an internal remedy, and Oser praises **Atropine** as a narcotic, but of more importance are **Residence in Healthy Localities, Abstention from Sexual Intercourse, Gymnastic Exercise, Baths** and **Bland Diet.** Forlanini treats chronic gastric catarrh by **Lavage**, with solution of **Nitrate of Silver.** First he introduces 2% bicarbonate of soda solution, and evacuating this, throws in ½ litre (17 fluid ounce) of 1 in 1000 silver nitrate solution, and repeats this, washing out finally with hot water containing some sodium chloride.

STRANGURY.

Synopsis.—(Vol. 1893, p. 86.) Benedikt quickly relieved two cases due to tabes and operative treatment of hæmorrhoids respectively, by applying the **Electrostatic Douche** and **Sparks** to the spine and epigastrium.

SUB-PHRENIC ABSCESS.

(See "Abscess," p. 56.)

SYCOSIS. *T. Colcott Fox, M.B.*

A. Mora recommends the following treatment as efficacious and rapid. The parts are rubbed with absolute **Alcohol** as frequently as possible, especially in the morning and evening. The pustules are opened with an aseptic needle as soon as they form, and their contents evacuated. They are then touched with absolute alcohol with or without the addition of boric acid. Lastly the parts are painted with the following solution, essence of cinnamon (Ceylon), ℥ij, sweet oil of almonds, ℥ij—iij. Pain may be relieved by a marsh mallow and boric acid spray.

To avoid relapses the treatment should be kept up for fourteen days after all trace of the disease has disappeared.

Stelwagon advises : (1,) Shaving daily or every second day ; (2,) Depilation whenever suppuration is a prominent feature ; (3,) The following ointment to be applied :—

℞ Sulphuris Præcip.	℥j	Ung. Diachyli ad	℥j
Balsam Peruv.	℥ss		

Ichthyol (℥j ad ℥j) is sometimes a valuable addition.

Gottheil again after epilation applies the following ointment to soothe :—

℞ Tinct. Opii (Sydenham) ℥ss—℥j	Cold Cream	℥j
Acid. Carbol. Crystal. gr. vij		

When signs of acute inflammation have subsided he uses either :—

℞ Ung. Diachyli (Hebra)	Ung. Zinci Oxidi āā	℥ss

or :—

℞ Hydrarg. Ammon.	℥ss	Vaselin ad	℥j

or later on again :—

℞ Ichthyol	℥ss	Lanolin ad	℥j

Klotz recommends an ointment of 2 per cent. β naphthol and 10 per cent. sulphur and oxide of zinc.

Richmond Leigh, after noting that **Pyoktanin** is a pus destroyer, but not a healer of wounds or ulcers, strongly recommends it in sycosis in a 1 in 500 solution, or as an ointment in vaseline. It is unirritating, often allays pain, but its blue colour is a great objection.

Ehrmann, accepting the origin of sycosis and folliculitis as due to the invasions of the hair follicles by the staphylococcus pyogenes aureus, employs **Cataphoresis** with good results, using 20—30 per cent. solution of ichthyol with a current strength of 20 milliampères, thus overcoming the difficulty of the penetration of the remedy. The greatest care must be taken to prevent any fresh infection from razors, etc.

REFERENCES.—"La Semaine Méd.," 1893; "Therap. Gaz.," Feb., 1893; Richmond Leigh, "Liverpool Med. Chir. Journ.," July, 1893; Ehrmann, "Wiener. Med. Presse," 1893, Nos. 9 and 10.

SYMPHYSEOTOMY. *Wm. J. Smyly, M.D., F.R.C.P.,I.*

Introduced by Sigault in 1778, this operation was at first warmly received by the profession, but was, after many disasters, except in Italy, entirely abandoned. In that country it has ever since occasionally been resorted to, and it is to an Italian obstetrician, Professor Morisani, that we are chiefly indebted for its revival, and, as I believe, its permanent establishment amongst recognized obstetric operations. In 1892 the operation was brought prominently before the profession by Dr. Harris in America, Dr. Pinard in France, and Prof. Leopold in Germany, and as a result a large number of operations were performed, both in America and on the Continent of Europe. During the past year there have not been so many important communications as in the preceding one: two cases only have been reported in the United Kingdom, one by myself, and the other by Dr. Lewers, of the London Hospital, so that the proceeding does not appear to have made much way amongst us. A very important contribution to our knowledge, however, was a paper read before the German Gynæcological Society, at their meeting in Breslau in May last, by Prof. Zweifel, of Leipzig, and the discussion which ensued upon it was also interesting.

Two important factors combine to render the operation safer at the present time than when it was originally introduced; firstly, asepticism, and secondly, in consequence of this its employment in a different class of cases. Originally, it was employed in cases of extreme pelvic narrowing as a substitute for Cæsarian section; now it is resorted to only in cases of minor deformity as an alternative to craniotomy. In his work on midwifery, Dr. Churchill stated that the operation would be advisable in cases where the antero-posterior narrowing was three inches; only for the bad results, one in three of the mothers being lost, and only half of the children being saved. The results being now very good, it is justifiable to resort to it in such cases in preference to destroying the child.

The limit laid down for its employment by Morisani and Caruso is a conjugate of from 6·7 to 8·1 cm., and these measurements have been generally adopted. The results of recent operations have been very satisfactory. According to Dr. Harris, fifty-three out of fifty-four women, and forty-eight out of fifty-four children, have been saved, and Morisani's latest statistics show fifty-five operations, with two maternal and three fœtal deaths; Prof. Zweifel, fourteen cases; all the mothers recovered, one child was stillborn, and one died on the second day.

On the other hand, Neugebaur, of Warsaw, states that he has collected one hundred and ninety-six cases with twenty-three deaths.

The advantages claimed for the operation are that it saves the infants; that in suitable cases it is less formidable than Cæsarian section; that it does not leave a uterine cicatrix, which might prove a source of danger in subsequent labours, nor an abdominal wound which might develop a ventral hernia.

The disadvantages are that even in the hands of the most skilful operators it is frequently associated with extensive lacerations of the soft parts, and especially of the bladder and urethra. That the after treatment is very troublesome, and that the divided symphysis may fail to unite firmly, causing permanent lameness. This does not appear to have occurred in many cases, but one is reported by Koffer in which though the patient was discharged with good union the bones subsequently became separated to 5·6 mm.

The operation is performed as follows: The patient having been placed upon her back at the end of the operating table, her knees are drawn up and separated by two assistants. The mons veneris and labia majora having been shaved, the hypogastrium and genitals are carefully asepticised, the depth, thickness, and direction of the symphysis ascertained, a catheter introduced, and an assistant directed to press it downwards and to the right to save the urethra from injury. A vertical incision is made from about three quarters of an inch above the symphysis to the base, or a little to the left of the clitoris. The recti muscles are divided transversely at their pubic attachment so as to admit the index finger, which is thrust down behind the joint as far as its lower margin. A curved probe-pointed bistoury, preferably Galbiati's knife, is guided along its palmer surface, and the cartilage divided. The division of the joint is attended by a creaking sensation, and is followed by smart hæmorrhage and a separation of the bones from one to one and a half inches. The wound is then plugged with aseptic gauze, and attention is turned to the delivery of the child. The Italians leave this process to the natural efforts, and this course is strongly advocated by Zweifel, though in ten out of his fourteen cases he was obliged to use forceps after the head had passed the brim. The object of delay is to save the soft parts; but Leopold and others prefer more rapid delivery, either by forceps or version, because of the difficulty of keeping the wound aseptic. After the delivery of the placenta the bones are adapted and the wound closed by suture. In Germany the bones are drilled and united by suture, but if the pelvis be firmly bandaged this does not appear to be absolutely necessary. Chrobak

drove nails into the bones on either side, and united them by a twisted suture. Dr. Frank, of Cologne, recommends an osteoplastic operation. A wedge of bone detached from the upper border of one pubic bone, taking care to preserve the periosteum, is to be fixed in the joint so as to preserve a permanent enlargement of the pelvis, and avoid a repetition of the operation in subsequent labours.

Some very interesting experiments are reported by Drs. Wehlers and Döderlein. The former examined twenty-five pelves and found no instance of ossification of the symphysis, but in some it ran obliquely from right above to left below, and in some it was displaced altogether to the left. He also observed that rupture of the sacro-iliac joint occurred in elderly women when the bones were separated 4 cm.; whilst in young women they could be divaricated 6 to 7 cm. before this occurred. Döderlein prepared the pelves by removing the soft parts. The middle of the plane of the brim was marked by a long metal borer passing over the middle of the symphysis and firmly screwed into the promontory of the sacrum. The joint was then divided and the ends of the bones divaricated to a definite extent. Measurements proved that the pelvis was enlarged in all its diameters, but that the second or left oblique diameter was affected much more than the right. That the right bone is more movable than the left was further proved by the unequal distance of the ends of the bones from the middle line. The right synchondrosis is therefore more yielding than the left, and is the one more frequently ruptured.

It appears, therefore, that pelves with a conjugate diameter of from 6·7 to 8 cm. are suitable for this operation, and in these cases it is to be preferred to craniotomy or Cæsarian section, but owing to the risk to the soft parts and the difficulties of after treatment it can hardly be recommended in general practice.

SYPHILIS.

Synopsis.—(Vol. 1893, pp. 25, 492.) **Europhen** dusted on locally is useful. Kaposi finds inunction satisfactory, but subcutaneous injections appear efficacious, and for this **Sublimate, Mercurial Peptones, Calomel, Oleum-cinereum** are used, but he considers the two last dangerous on account of their insolubility. Lichtenstein considers that relapses are more frequent after using partially soluble preparations, such as the **Salicylate of Mercury**, than after the more insoluble, such as **Oleum-cinereum**. Neumann uses **Asparagin Mercury**, prepared by dissolving 10 grs. **Asparagin** in water and adding **Oxide of Mercury**, until no more dissolves, then diluting to 1 or 2 %, and injecting 1 c.m. once daily. For subcutaneous injection in infantile syphilis, 1 to 2 m.-grms. **Corrosive Sublimate**, dissolved in water, or the following (huile grise) are advised: ℞ Mercury, 3; Lanolin, 3; Olive Oil, 4; or preferably ℞ Mercury, 39; Mercurial Ointment, 2; Vaseline Oil, 59. Dose, 1 to 2 grs. daily. Lustgarten advises inunction with **Tannate of Mercury**, 3 to

5 grs. daily for a month at a time, using the following: ℞ Hydrarg. Tannic Oxydulat. gr. 1½; Ac. Tannic., Sacch. Lact. āā gr. ¾, M.; Ft. in pulv. sive in capsul. gelatin. Sig.—1 twice or three times a day for adults.

Feibes advises **Chromic Acid**, 1 part to 2 of water for mucous patches, chronic superficial glossitis and ulcers of the tongue. Eve uses **Bicyanide of Mercury**, gr. 15; Aq. ℥j, is best for applying to mucous patches, and recent superficial ulcers.

SYRINGOMYELIA. *Græme M. Hammond, M.D., New York.*

Cramer[1] after a review of recent literature upon this subject summarizes as follows: (1,) The causation of the disease is obscure. In some cases it appears to have a congenital basis, and a history of trauma is given; (2,) The symptoms of the disease may be produced by various lesions. In most cases, however, there is a chronic overgrowth of the neuroglia; (3,) The chief seat of the lesion is in the gray matter behind the central canal of the cord; (4,) Mowan's disease (paresis, with analgesia, and necrotic conditions noticeable in the upper limbs) is clinically and pathologico-anatomically a form of syringomyelia. But in it the peripheral nerves may be diseased; (5,) Syringomyelia may last two or three years (glioma), or three to four decenniums (simple overgrowth of glia); (6,) The cavity originates in destruction of the diseased tissue; (7,) The central canal of the spinal cord participates only secondarily in the formation of the cavity.

Charcot has described certain joint affections that sometimes occur with syringomyelia. Pain in the joints is the first symptom to attract attention. Little by little there is swelling and distortion of the epiphyses of the bones and semi-dislocations which can be easily reduced without pain. The joints crackle on motion. Sometimes the epiphyses atrophy instead of hypertrophy. Occasionally there are separate osteomata in the tendons or muscles near joints.

REFERENCE.—[1] "Brit. Med. Journ.," Aug. 1893.

TÆNIA.

Synopsis.—(Vol. 1893, p. 494.) ℞ Ess. Oil of Felix Mas., 0·50 to 0·80; Calomel, 0·20 to 0·40; Water, Powdered Sugar, āā 10 grms.; Gelatine, q.s. M. Sig.—All to be taken in 3 or 4 doses in morning before food, and after using milk diet the previous day, French physicians use this formula and advise avoidance of salty food, for fear of Mercurial poisoning. Laborde gives **Strontium Salts**, *e.g.*, ℞ Strontium Lactate, 20 grms; Aq. Dest., 120 grms.; Glycerine, q.s. M. Sig.—2 tablespoonfuls a day, in the morning, for five days. Mirowicz advises **Naphthalin** as anthelmintic, 1 gramme for a dose, and for adults a dose of castor oil afterwards, but for children it is best to give both together. Coriander gives 2 or 3 grs. naphthalin twice daily to young children, and 8 to 20 grs. to adults. Crequy gives the following capsules: ℞ Oleoresin of Male Fern ℥ij, Calomel gr. v.; divide in 16 capsules. Early in morning take 1 every five minutes. In some cases a large dose of **Spirits of Chloroform** or **Hoffmann's Anodyne** may be given, or **Castor Oil**, to remove the worm finally.

TETANUS. — *Græme M. Hammond, M.D., New York.*

R. Gattai[1] reports the eleventh case of traumatic tetanus cured by **Tizzoni's Antitoxin.** A boy, fifteen years old, was wounded in the thumb by a pair of compasses. In six days the tetanus manifested itself. Tizzoni injected 10 ccm. of the serum of a rabbit immunized against tetanus. This was repeated frequently and in different doses for several days. In two weeks the trismus had greatly diminished. Two days later it disappeared entirely.

REFERENCE.—[1] "Amer. Med. Surg. Bull.," Nov. 1893.

Synopsis.—(Vol. 1893, p. 495.) Radcliffe reports a traumatic case cured by enormous doses of **Chloral** and **Calabar Bean**, fresh fluid extract, the former in 7 to 9 gr. doses every two hours for nearly five weeks, and the latter in 4 to 7 drop doses not so regularly, but for the same period. Pacini reports a case cured by the **Tetanus Antitoxin.** Finotti and Taruffi also report recoveries. Strazzeri and Titoni used hypodermic injections of **Carbolic Acid** successfully; a 2% solution was used every six hours.

THALAMUS AND INTERNAL CAPSULE (Lesions of).

Græme M. Hammond, M.D., New York.

Dr. Chas. R. Mills[1] at the last meeting of the American Neurological Association, exhibited a brain showing a hæmorrhagic cyst which had destroyed about two thirds of the substance of one thalamus, including the entire external tubercle, and a large portion of the pulvinar. The lesion had invaded the posterior arm of the internal capsule to a slight extent. The symptoms of the case summarized were; hemianæsthesia; paresis with contractures, not marked; and inability to recognize the position of the affected limbs. There were no evidences of hemianopsia, athetosis or chorea.

Dr. Wharton Sinkler[2] also presented a specimen of tumour of the left thalamus. It was as large as a hen's egg, and encroached upon the striatum and posterior part of the internal capsule. The patient suffered from anæsthesia of the right side of the face only. There was unsteadiness of gait and awkwardness of the right hand, but no paralysis except in the right half of the face. There were no nystagmus, hemianopsia, or changes in the fundus oculi. There were mental hebitude and hysterical symptoms.

Dr. Dana[3] reported two cases of lesion of the posterior portion of the thalamus. In both cases there was somnolence. He considers this symptom characteristic of lesions of the posterior part of the thalamus and corpora quadrigemina.

REFERENCES.—[1] "New York Med. Jour.," Aug. 19, 1893; [2] Ibid.; [3] Ibid.

EPITHELIOMA OF THE SOFT PALATE AND UVULA, &c.
Under Dr. Watson Williams, at Bristol Royal Infirmary.

THROAT (Diseases of). *P. Watson Williams, M.D., Lond.*

Diagnosis of Cancer and Syphilis and other Affections of the Fauces.—While cancer of the tonsil and soft palate is a relatively uncommon affection and syphilitic disease is common, the practical importance of making a diagnosis between a disease which is incurable and one which is peculiarly amenable to treatment is obvious. Yet the difficulty of distinguishing between these and other diseases in this region is often very great, so much so, that an error in diagnosis is often held to be a very pardonable mistake. Cancer in its earlier stages is often very slow in developing, and at this period it is frequently impossible to determine the true nature of this affection.

In carcinoma the most characteristic early symptom is constant pain of gradual onset, increased but not induced by swallowing, of a lancinating character, and darting up to the ear. On digital exploration the enlarged tonsil gives that *characteristic fixed indurated feeling* referred to by McBride, without marked tenderness. The neighbouring glands are generally enlarged and indurated, but this condition is by no means invariable, and the absence of obvious enlargement of the glands in the neck does not exclude the diagnosis of cancer. The tonsil soon ulcerates, and then in appearance closely resembles tertiary syphilitic disease. The diagnosis can hardly be made between these affections till the failure to check the progressive ulceration by antisyphilitic [illegible] leaves no doubt as to its real nature. I have found large doses of **Iodide of Potassium** will sometimes relieve the pain, but mercurial ulceration progresses.

The symptoms of lympho-sarcoma do not differ much from those of alveolar cancer.

Butlin differentiates between epithelioma and sarcoma; the former ulcerates soon and thus gives rise to more pain, while sarcoma occurs as a smooth round growth, less painful and showing less tendency to early disintegration.

Primary epithelioma more frequently occurs in the soft palate or pillars of the fauces, generally spreading to the tonsil, so that it is soon impossible to say for certain which was the seat of origin. The case I have illustrated (*Plate XXIX*) is a good example of epithelioma in this region. It began in the soft palate on the right side eleven months before this drawing was made. The case was diagnosed and treated for syphilis before he came under my care, although there was no history of syphilitic infection. The growth gradually spread, as the illustration shows.

On the (patient's) left we see an illustration of the growth in its earlier

stages of infiltration before ulceration, surrounded by an angry looking areola, hard to the touch. The main portion of the growth shows the light pink granular but deep ulceration, covered with greyish mucopus and disintegrated tissue which gave a characteristic fœtor to the breath. The surface of the ulcerated portion is characteristically fissured, nodular, and of a cauliflower aspect, while the margin is elevated, distinct, and hard, differing from the margin of syphilitic ulceration which is undermined. The whole growth was hard and indurated, and fixed, but there was no glandular enlargement and infiltration in the neck at this stage, nor was the pain intense. A small portion snared off showed that the growth was an epithelioma.

It is unnecessary to trace this case further than to remark that the breaking down of the growth rapidly progressed, the disease extended to the tonsils and to the larynx, the glands of the neck becoming greatly enlarged, and he gradually sank two months after the drawing was made. An attempt was made to arrest the disease by inoculating the patient with a pure culture of the streptococcus of erysipelas, but without any success.

Sarcoma of the fauces and tonsils often develops very insidiously, but when the growth has attained any size the mucous membrane covering it is succulent and bright red in appearance. It is less hard than epithelioma, but varies very much in its rate of growth, some forms showing a tendency to remain localized for a considerable period. It spreads by extension to the neighbouring regions, and very generally involves the deeper tissues behind the angle of the jaw so as to cause large swellings in the neck. Pain is not a very prominent symptom until ulceration has occurred, and even then is often inconsiderable. Interference with swallowing is chiefly mechanical. Hæmorrhage is often severe, but usually ulceration is not deep.

In carcinoma the onset is equally insidious, but it often develops more rapidly than sarcoma, pain is more marked, ulceration occurs earlier, the growth is hard, pale pinkish or even bluish pink, with well marked areola round the growth. The ulcers are deep, with hard raised margins and are covered with yellowish grey *débris*, and presents the characteristics emphasized in describing the coloured figure. Carcinoma of the tonsil occurs generally, and sarcoma very frequently, after the fortieth year. While enlarged tonsils dating from childhood may persist throughout life, an enlargement commencing in an adult especially if unilateral, must always be regarded with grave suspicion.

The close similarity of syphilitic disease and cancer is shown by the following observations of Bulkley[1] on his fifteen cases of chancre of

the tonsil. None of the cases had been previously diagnosed. In most cases the first symptom is a stinging pain in the tonsil, with a little pain on swallowing. The tonsil then enlarges, sometimes greatly. The surface is very red; generally there is no marked ulceration, but some erosion is always present with a well defined and sharply cut margin, although seldom much elevated. The base is generally covered with a slight whitish, sticky secretion. On palpation induration is generally very distinctly recognized; sometimes the tonsil is of stony hardness. The induration of epithelioma would be excluded to a great degree by its rarity, especially in early middle life, when most of these chancres occur. The submaxillary glands on the affected side were enlarged in all the cases. Sometimes other glands were also enlarged. The development of secondary symptoms, of course, confirms the diagnosis.

Secondary syphilis of the tonsils is associated with considerable infiltration, redness and swelling, the tonsil generally showing mucous patches.

In tertiary syphilis the tonsil is deeply ulcerated, there is a limited, but well-defined areola, and the pain on swallowing is slight. The tonsil is less sensitive to pressure, but is generally indurated.

The smooth rounded, indurated swelling of chronic abscess of the tonsils, so fully described by Peyrissac, always dates from previous attacks of acute tonsillitis. Although the tonsil is enlarged and indurated, there is nothing like the stony hardness of cancer, and pain is slight, but when a fistulous opening has formed, the condition is not unlikely to be confused with a disintegrating syphilitic gumma.

It would seem impossible to mistake a case of acute tonsillitis for syphilis, yet such an error is sometimes made, and Lennox Browne states that he has witnessed examples of it both in the early and in the acute tertiary forms. This authority emphasizes the fact that the peculiar character of secondary syphilis—symmetry, and of the tertiary form—destructive ulceration, together with a careful comparison of the other symptoms, should prevent the possibility of such a serious mistake.

Tubercular ulceration sometimes very closely simulates cancer, but there is an absence of hardness of the areola that is so characteristic of cancer, and in tubercular ulcers we find a rapid, but irregular, mouse-nibbled, superficial ulceration, covered with greyish pus, and always associated with symptoms of acute tuberculosis.

The following table of differential diagnostic signs briefly summarizes the main points of distinction :—

CARCINOMA.	SARCOMA.	CHANCRE.
Symptoms. — Dysphagia is always an early symptom, and pain is considerable and persistent, but of gradual onset. Increased pain on swallowing becomes so great as to prevent the patient taking food. Saliva accumulates in the mouth. Early and well marked cachexia, and rapid loss of flesh. *Physical Signs.*—Carcinoma always presents an enlargement with superficial irregularity of surface, which is light pink or bluish, and soon ulcerates with granular fissured surface, hard elevated margin, general cartilaginous hardness and fixedness. Ulceration not very depressed, covered with fœtid mucopus. Early infiltration of neighbouring glands. Hæmorrhage frequent and often profuse, sometimes fatal. Generally unilateral.	*Symptoms.* — Difficulty and pain in deglutition, sometimes very slight, and until ulceration, is chiefly mechanical. Saliva accumulates and dribbles from the mouth. Loss of flesh generally rapid. *Physical Signs.*—Sarcoma attains considerable dimensions before ulceration commences. The growth is red, fleshy looking, and soft, surrounded by a well marked bright red areola. Spreads to neighbouring regions and externally to the neck,—especially rapid is the extension of round-celled sarcoma. Hæmorrhage is frequent and sometimes fatal. Generally unilateral.	*Functional Symptoms.*—The first symptom is a stinging pain in the tonsil, but with little pain on swallowing, which is never so difficult as in cancer or in tertiary syphilis. Cancer occurs in late middle life, except sarcoma, which may occur in the young; chancre generally in young adults. *Physical Signs.* — The surface is very red, but there is always a well defined erosion, with sharply cut margin, from the commencement. Induration or even stony hardness. The submaxillary glands early enlarged. Like cancer and tertiary syphilis, and unlike secondary, it is unilateral. No hæmorrhage, only streaks of blood. No emaciation, early appearance of secondary rash, etc. *Therapeutic Sign.*—Most amenable to treatment.
SYPHILIS.	TUBERCULAR ULCERATION.	ACUTE TONSILLITIS.
Symptoms. — Pain on swallowing often difficult, never impossible. Wasting and cachexia in proportion to the difficulty in taking nourishment, and not very pronounced. No salivation. In secondary syphilis of the tonsils and fauces there is generally bilateral deposit of mucous patches and superficial ulceration, with well marked purplish areola. In tertiary syphilis the tonsils are unilaterally affected by a deep perforating ulcer. The margins of the ulcer are often undermined and overhang the deep lying ulcer, the floor of which is covered with necrotic tissue. The sympathetic glandular enlargement is slight, and not painful as in cancer. Hæmorrhage slight or absent. The rapid improvement under antisyphilitic remedies is always a valuable sign.	*Symptoms.* —Swallowing is always very painful, and loss of flesh rapid, with nocturnal rise of temperature, and a general well marked tubercular cachexia is always present. There is early and rapid infiltration of the parts around, with very early tendency for fluids to return through the nose on swallowing. *Physical Signs.*—General pallor, with diffuse infiltration of the affected region. Early superficial, irregular mouse-nibbled ulceration with grey *débris*. In the earlier stages the deposits of miliary tubercles are very characteristic; these ulcerate and coalesce. No inflammatory areola, no sympathetic glandular enlargement. Hæmorrhage generally absent.	*Functional Symptoms.*—Pain very marked from the commencement, great tenderness and difficulty in swallowing. Generally some rise in temperature. In cancer, onset of pain is gradual. *Physical Signs.*—Characteristic redness and inflammatory infiltration. Follicular exudation, but no ulceration. May proceed to suppuration. *Chronic abscess* of the tonsil may be diagnosed by incision and discharge of pus. *Therapeutic Sign.*—Most amenable to treatment.

REFERENCE.—'Transactions of Medical Society of New York, "Med. Chron.," Oct., 1893.

THROAT (Incised Wounds of).

The treatment of these cases by accurate coaptation under full antiseptic precautions has recently proved most successful. Carefully applied catgut stitches are used to restore the parts as nearly as possible to their original position. The stitches should not pass through the mucous membrane. The head is held in a position of fixed flexion by means of appropriate bandages and propping with pillows. Healing is as complete and rapid as is usual in the ordinary incised wound. This rapidity of union allows of rectal feeding being employed up to the time that the patient can swallow without danger of opening his wound; hence feeding by a tube passed into the pharynx or œsophagus is not necessary, and, as the result of the accurate coaptation, contracture and stricture of the air-passage or food-passage does not take place; nor in any case did there result a permanent, or even a temporary, fistula communicating with the air- or food-passage.

REFERENCES.—Morris, "Lancet," Dec. 24, 1892; "Therap. Gaz.," Feb., 1893.

TIC (Convulsive).

Synopsis.—(Vol. 1893, p. 497.) Hammond commends use of **Atropine** 1 gr. to ʒj solution, of which 5 drops were given three times a day, and increased until 11 or 12 drop doses were used; if mydriasis was induced, the drug was temporarily withheld; with each dose 10 grs. **Bromide of Sodium** was combined. He also praised the fluid extract of **Conium**, of which 5 to 7 drops were given three times a day, increased to 25 or 35 drops, and also combined with the **Sodium Bromide**. He found large doses of arsenic useless. Dana recommends 4 or 5 grs. **Oxide of Zinc** in 1 drachm officinal solution of **Potassa** in some obstinate forms; it is given largely diluted with water three times a day, but is not borne long.

TINEA IMBRICATA.

Synopsis.—(Vol, 1893, p. 499.) **Lin. Iodi** is very effective, and the clothes must be burnt during treatment, or relapse will occur.

TINEA TRICHOPHYTINA. *T. Colcott Fox, M.B.*

In ringworm L. Butte cuts the hair quite short or shaves it, and thoroughly washes the scalp with an antiseptic lotion and soap. He then curettes the diseased patches to remove diseased hairs and expose the follicles after Quinquaud's method after inducing local anæsthesia by Bengué's chloride of ethyl. The following lotion is then applied by means of compresses to the scraped area and to the rest of the scalp:—

℞ Hydrarg. Iodidi rubri. gr.jss | Sp. Vini. rectif. ʒj
Hydrarg. Perchloridi gr.ix | Solve et adde Aquæ destill. ʒv
M.—Ft. lotio.

The head is washed daily with soft soap, and the lotion applied. After a time the following plaster is applied :—

℞ Hydrarg. Perchloridi gr. ix | Emplast. simplicis ℥v
Hydrarg. Iodidi rubri gr. jss |
Fiat emplastrum.

Butte also recommends **Iodized Collodion** to be painted on in one of the following solutions till a thick layer is formed, when the crust may be torn off and the exposed part washed with perchloride of mercury (1 in 500) :—

℞ Alcohol at 95° 12 grammes | Venice Turpentine 1·50 grammes
Metallic Iodine 0·75 grammes | Castor Oil 2·75 grammes
Dissolve and add Collodion 35 grammes.

Or, ℞ Alcohol at 95° 5 grammes | Metallic Iodine 0·50 grammes
Ether 5 grammes | Collodion 30 grammes

D'Audrain writes on the value of introdermic injections with a watery or alcoholic solution of acid sublimate (sublimate and tartaric acid, 0·01 to 30 grammes of water).

Losophan is a new drug recommended in a 1—2 per cent solution in water and alcohol.

Moir says he gets good results by shaving the hair and washing with soap and water and applying compresses of lint soaked with corrosive sublimate (1 in 2000) at a temperature of about 122° Fahr.

In a discussion at the British Medical Association the writer dealt with the principles of treatment, viz., the *mechanical* in epilation, the purely *parasiticidal*, and the *irritative*, attaching the greater importance to the first and last. Both he and Alder Smith spoke highly of the capabilities of **Croton Oil** when expertly handled in the manner laid down by them.

Radcliffe Crocker spoke well of **Oleate of Copper**, and also the epilatory method by tearing off a dried layer of salicylic acid in collodion.

Balmanno Squire advocated **Chrysarobin.**

REFERENCES.—Butte, "Ann. de la Policlinique de Paris," also "Ann. de Derm. et de Syph.," No. 4, April, 1893, and his "Treatise of Ringworm"; Brocq, "Rev. Gener. de Clin.," 5 p. 66, 1893; Bavaz, "Thèse de Bordeaux"; Noir, "Progrès Med.," Sept. 2, 1893; "Brit. Med. Assoc.," 1893 (discussion).

Synopsis,—(Vol. 1893, p. 500.) Duhring finds **Sulphur Ointment** ℥ij—iij to ℥j, and **Chrysarobin** ℥j—℥j the best remedies. Kerion was treated with lotions containing **Sulphurous Acid** or **Sodium Hyposulphite**. **Corrosive Sublimate** must not be used over large surfaces. **Croton Oil** 1 part, **Olive Oil** 3 parts, was used in some sluggish spots. Illingworth advises his **Biniodide Solution**. Von Sehlen says chrysarobin has no effect on cultures, but **Salicylic Acid** and **Ichthyol** have. Eddowes uses

Sulphur and Chrysarobin ointments after a detailed plan. Abraham rubs in daily with a stiff brush ℞ Ac. Carbolic ʒss-j, Ac. Salicylici ʒss-j, Ung. ad. ʒj. M. In certain obstinate cases carbolized liniment of Iodine, or Mercuric Chloride or Iodide (1 to 2 grs. to ʒj) has been added to the ointment.

Hallopeau's Method.—Use Black Soap every morning, then rub in Camphorated Alcohol 125 grms, Essence of Turpentine 25 grms., Liquid Ammonia 5 grms.; half-an-hour later apply Iodised Vaseline, and again at night, the head to be covered with an india-rubber cap. Sohet uses Iodine dissolved in the least possible quantity of ether, and adds Lanoline. Butte suggests Epilation by painting on for about a fortnight Iodised Collodion, and then tearing the mass off and applying a parasiticide. For the Iodized Collodion, ℞ Alcohol (95°) 12 grms., Metallic Iodine gr. 0·75. Dissolve and add ℞ Collodion gr. 35, Venice Turpentine gr. 1·50, Castor Oil. gr. 2.

TINEA VERSICOLOR.

Synopsis.—(Vol. 1893, p. 502.) Hartzell recommends ℞ Ac. Salicylici gr 15, Sulphur. precip. ʒj, Lanolin, Vaselin, āā ʒiijss. M. Ft. Ung. Fox uses frictions of Green Soap in a hot bath daily, applying night and morning a saturated solution, Sodium Hyposulphite in Rose-water, and an equal quantity of Eau de Cologne; the efficacy of this may be increased by adding Pumice Stone and Precipitated Sulphur. Molènes and Costilhes destroy the fungus with Tinc. Iodi, Resorcin Lotion or Oleate of Copper, and use purgatives and Naphthol to improve condition of digestive tract.

TOE-NAIL (Ingrowing).

Reviewing the measures adopted for the relief of this affection, Dr. Howard describes an operation which has for its object the removal of a wedge-shaped mass of tissue which, during cicatrization, shall draw the overlapping tissues away from the edge of the nail. Commencing about three-sixteenths of an inch from the edge of the nail, passing the knife directly toward the bone, not going deep enough to wound the periosteum, make the cut from the centre in front, horizontal to the plantar surface, around and back to a line a little beyond the proximal end of the nail; next, begin at the same place as before, pass the knife in a semicircular manner, ending with the proximal end of the first cut, removing an elliptical wedge-shaped section by bringing the cuts together at their deepest angle. A piece three-eighths of an inch in width is often sufficient to draw the soft parts away from the nail when closed. Bring the edges together with deep silk sutures, dress antiseptically, and immediate union will take place. On the fourth day the sutures may be removed and the wound dressed as in any other case. In from a week to ten days a shoe may be worn with perfect comfort.

Often the second toe overrides the deformed great toe; in such cases we usually find that the deformity consists in a bag, so to speak,

containing fragments of hypertrophied nail which keep up the irritation, maintaining an abscess, often encysted, causing hypertrophy of the soft parts. These must be carefully and certainly removed. In all cases endeavour to preserve the matrix, especially along the edges and around the distal end of the nail.

When tight shoes with high heels are worn, there is very little that can be done to benefit them. An operation which has for its object the removal of the greater part of the toe, making the cut entirely around the end, extending it back nearly to the distal joint, will relieve these cases, if followed by wearing a shoe with broad toe and low flat heel. The application of 1 part of **Paraffin** and 2 parts of **Tallow** will tend to toughen the nail, and to hold the soft parts away from the nail. Many cases may be relieved by this application alone, properly applied at the onset of the trouble.

REFERENCE.—Howard, "New York Med. Journ.," May 27, 1893.

Synopsis.—(Vol. 1893, p. 503.) Soften nail with 40 per cent. solution of **Potassium**, and then scrape with glass until the edge can be lifted.

TONGUE (Surgery of).

Dr. Dandridge considers that: Sufficient experience has been accumulated to show that the removal of cancer of the tongue prolongs life and adds to the comfort of the patient, and also affords a reasonable hope of a permanent cure.

All operations should be preceded by an effort to secure thorough disinfection of the mouth and teeth.

In the treatment of continued ulcers and sores on the tongue, caustics are to be avoided and all sources of irritation removed.

Persistent sores on the tongue should be freely removed by knife or scissors, if they resist treatment.

When the disease is confined to the tongue, Whitehead's operation should be employed for its removal.

In this operation the advantage of preliminary ligation of the lingual artery is not definitely settled, but the weight of authority is against its necessity.

The advantage of leaving one-half the tongue, in unilateral disease, must be considered undetermined, but the weight of positive experience is in its favour. In splitting the tongue into lateral halves, Baker's method of tearing through the raphe should always be employed.

A preliminary tracheotomy adds an unnecessary element of danger in the removal of the tongue in ordinary cases.

When the floor of the mouth has become involved or the glands are enlarged, Kocher's operation should be employed, omitting the spray and preliminary tracheotomy.

Removal of the glands by a separate incision after the removal of the tongue, must be considered insufficient.

Volkmann's method still rests on individual experience. Its just value cannot be determined until it has been subjected to trial by a number of surgeons.

Thorough and complete removal should be the aim of all operations, whether for limited or extensive disease.

By whatever method the tongue is removed, the patient should be up and out of bed at the earliest possible moment, and should be generously fed.

REFERENCE.—"American Lancet," Oct., 1892.

TONSILS (Diseases of).

Follicular Tonsillitis.—Dr. Hemenway[1] employs an **Antiseptic Spray**, applied under considerable pressure, in preference to the brushing on of astringents, for follicular tonsillitis. Embedded in the tonsil crypts he has frequently found masses of epithelium containing leptothrix and other bacteria and leucocytes. After removal of these by the spray, the patient usually lost the tendency to the recurring attacks of tonsillitis from which he previously suffered. In chronic disease, when the tonsils are flabby, Dr. Hemenway considers that a **Mild Galvanic Current** is of most service, both on account of its tonic effects on the whole gland, and also the production of an alkaline condition of the previously acid secretions, thus hindering the development of bacteria. The negative electrode is applied to the tonsil, and the current should never be strong enough to sear the mouths of the crypts, which should always be left open. Hence his objection to the electro-cautery.

Heubner[2] states that if one of the swollen tonsils is injected with a solution of **Carbolic Acid** (2 to 100) the action is usually prompt and favourable; 8 drops of this solution may be employed. The temperature falls almost immediately, and within the hour the patient feels entirely well. A second is rarely necessary.

Sahli also injected carbolic acid in cases of follicular and diphtheritic tonsillitis. He has recently employed **Trichloride of Iodine**, a chemical compound which is powerfully antiseptic and not at all toxic. In diphtheria the injections are made into the false membrane and beneath it into the parenchyma of the tonsil. A solution of the strength of 2 to 1,000 is used. The injections occasion very little pain.

Hypertrophy of Tonsils.—Ruault[3] practises a new method of **Partial Ablation** together with **Iodised Applications**, which he considers

superior to tonsillotomy, because it gives rise to scarcely any bleeding. It is superior to ignipuncture, being much less painful and without reaction, general or local. It also gives greater precision of operation than other methods. Cryptic concretions are to be got rid of by discission; adhesions of the faucial pillars and tonsils are to be liberated by a special crotchet. These small preliminaries are easily performed under cocaine. Then with special and powerful forceps, devised by the author, pieces of the tonsil are picked off, the author's forceps allowing of a clean cut. The operator must guard against grasping the faucial pillars by mistake, or taking off too large pieces of tonsil at once. In three or four attempts a good portion of the surface of the gland is removed, pain and bleeding are insignificant; the same is practised upon the other tonsil. Energetic friction is then made to the surface of the bleeding glands with a solution of **Iodine** 1, **Iodide of Potassium** 1, **Distilled Water** 4 to 6 grammes. Sharp pain results. The patient gargles with cold water, and can then follow ordinary occupations, and take food without trouble or pain.

In a few days to a week the tonsil has largely diminished, greatly due to secondary retraction. A second sitting is then undertaken, and in the majority of cases this is all that is required. Dr. Ruault has operated now on eighty cases, and has only three times required to repeat the operation in three sittings. It is an absolute rule never to operate unless the tonsil is freed from adhesions with the anterior pillar.

In treating this condition in children, Dr. Barrett[4] prefers the guillotine, as being much more speedy and direct, and involving practically no risk. But in the case of adults, so many cases of serious and occasionally fatal hæmorrhage have occurred that for some years past he has ceased to remove them with any form of cutting instrument. The hæmorrhage has been chiefly parenchymatous, and in one case at least could not be arrested even by ligature of the common carotid. The method he now employs is as follows: The throat is sprayed with a 5 per cent. solution of **Cocaine** once or twice, and in two or three minutes the patient is ready for operation. He uses the **Paquelin Cautery** with a stout terminal (2 mm. in diameter), curved at the point at right angles. This is raised nearly to white heat, the tongue is held down with a depressor, and the hot point is driven into the centre of the tonsil to the depth of from one-eighth to one-fourth of an inch. It is then re-introduced, and driven in in a similar manner, till the whole surface of the tonsil is riddled. The patient finds it much more comfortable if pauses for a few seconds are

made from time to time, and the depressor removed. After the whole surface has been riddled, he frequently re-introduces the cautery for the purpose of breaking down the partitions left between the various pits, so that the ultimate effect of the cauterization is to leave a large hole in the tonsil. The proceeding is very nearly painless, so long as care be taken to avoid touching any part of the pharyngeal mucous membrane or the tongue. If, however, those parts are touched with the cautery, the pain is very considerable. Local reaction follows the operation, and there is frequently a feeling of malaise and indisposition for from twenty-four to seventy-two hours. The sloughs separate in from three to seven days, and the tonsil then atrophies.

Tonsillitis.—The following is recommended for use by those persons predisposed to the development of tonsillitis[5]:—

℞ Olei Menth. Pip. ♏viij | Spt. Vini rectificat. ℥ij
Acid. Carbolic (Crystal.) ℥j

M. Sig.—10 drops to be added to a cup of warm water, and this solution used as a gargle night and morning.

In six cases of suppurative tonsillitis the following abortive treatment was successfully practised: [6]At the *début* of the inflammation the tonsil is painted with a solution of **Glycerine** and **Chloride of Zinc** (1—20). The pain is a little more severe than that produced by nitrate of silver, but still more supportable than the lancinating pain of the inflamed gland. One operation is sufficient. Forty-eight hours afterwards the slough comes away. In the meantime 20 grains of salol are given three times daily as a germicide. In from four to six days the patients, who had suffered periodically from quinsy, were well.

Hypertrophy of Lingual Tonsils.—Dr. William Robertson[7] gives a *résumé* of the papers on this condition during the past year. He points out that the majority of authorities seem to have given up the use of the cautery in this dangerous region on account of dangerous hæmorrhage and severe constitutional disturbance which sometimes follow its use. As a substitute **Lugol's Solution** is recommended :—

℞ Iodine Bichlor. gr. vj | Ol. Menth. Pip. ♏xij
Iodide of Potass gr. xij | Glycerini ℥j

The painting daily with this solution, as a rule, suffices to remove the conditions.

REFERENCES.—[1]Hemenway, "American Lancet," June, 1893; [2]"La Méd. Modern," 4 année, No. 32, 1893; [3]"Brit. Jour. of Laryngol.," June, 1893; [4]"Australian Med. Jour.," "Med. Record," Jan. 14, 1893; [5]Robertson, "Brit. Jour. of Laryngol.," Jan., 1893; [6]"Med. Press and Circ.," March 1, 1893; [7]"Clinical Journal."

Synopsis.—(Vol. 1893, p. 505.) **Sulphurate of Calcium**, ⅛ to ½ gr., frequently repeated, often gives relief, and sometimes aborts the attack. Black treats abscess by **Peroxide of Hydrogen**, to which a little **Oil of Cassia** has been added. **Galvano-caustic** treatment and **Massage** are being utilized for the treatment of various hypertrophies and chronic inflammatory conditions of mouth and throat, as advised by Kellgren, Braun, and Laker.

TORTICOLLIS (Spasmodic). *William Thorburn, B.S., F.R.C.S.*

Surgical Treatment of.—Gardener and Giles [1] record two cases—one of spasmodic torticollis and one of retrocollis—treated by resection of both spinal accessory nerves and subsequent division of the posterior branches of the second and third cervical. The first case was completely cured, and remained so at the end of five years; the second was very greatly improved. The operation of division of the posterior cervical branches, which is similar to that of Keen, was performed before the first of the latter surgeon's cases. It is urged that an attempt at cure should always be made by watching the result of section of the spinal accessories before the more severe posterior operation is adopted; that it is advantageous to divide both spinal accessories and thereby to preserve the symmetry of the neck; and that the posterior operation should, owing to its difficulty and prolongation, never be performed simultaneously on both sides.

Hübscher [2] finds that in torticollis the orbital muscles undergo changes to allow of the eyes accommodating themselves to the change in the direction of the middle line of the head. Thus if the head be deflected to the left, the eyes must rotate so as to maintain the horizontal line of the retinæ at right angles to the middle line of the body. That this actually occurs he found by obtaining perimetric tracings. He holds that the result increases the difficulty of curing torticollis, as, after operation, the patient tends to return to his malposition in order to assist the weakened eye muscles to keep the eyeballs horizontal.

REFERENCES.—[1] "Australian Medical Journ.," 1893; [2] "Bruns" Beiträge zur klinische Chirurgie," vol. x.

John Ridlon, M.D., Chicago.
Robert Jones, F.R.C.S., E.

Pearce Gould made an incision along the anterior border of the sterno-mastoid, and by traction four and a half inches of a slender nerve were drawn out of the jugular foramen, and excised. The case was apparently cured. He mentioned two other cases subsequently, but the operation was too recent to speak authoritatively about the result.

TRACHOMA.

Synopsis.—(Vol. 1893, p. 513.) Hippel rubs the conjunctiva with cotton wool dipped in **Corrosive Sublimate** 1 to 2000, previously applying **Cocaine**, and squeezing out the trachoma bodies where possible.

TREMOR (Mercurial).

Charcot concludes that there is no such thing as mercurial tremor, but that the symptom is an hysterical manifestation originated by long hours, close confinement, unhygienic surroundings, and over-exertion of limited faculties. Dutil, examining five cases, found hemianæsthesia, hysterogenic zones, and hysterical attacks present in three, the last symptom often being precursory of tremor. This view materially influences treatment, and the **Douche, Pack,** and **Shower-bath**, together with **Gymnastics, Massage,** and **Nerve Tonics,** take the place of iodine and vapour baths.

REFERENCE.—"Practitioner," April, 1893.

Synopsis.—(Vol. 1893, p. 514.) Potts gives **Sparteinè Sulphate** ¼ gr. doses three times a day, increased in a few days to ½ gr. doses; in all functional cases the improvement was marked.

TRIGEMINAL NEURALGIA.

Synopsis.—(Vol. 1893, p. 514.) Horsley places most faith in **Quinine** combined with **Arsenic** and **Gelsemium. Antipyrin** and **Antifebrin** may sometimes help; **Opium** should be avoided. **Chloride of Ammonium, Aconitine,** and **Counter-irritation** over the point of emergence or the course of the nerve may be useful. **Galvanic Current** may relieve pain, When all else fail, **Nerve Stretching, Neurotomy,** or **Nerve Avulsion** have to be thought of.

TUBERCULOSIS. *Henry Dwight Chapin, M.D., New York.*

Dr. J. M. Keating[1] arrives at the following provisional conclusions in regard to the transmission of tuberculosis to the fœtus:—

(1,) Unrecognized genital tuberculosis in women without pulmonary diseases is not uncommon.

(2,) A tuberculous mother can transmit the disease to her offspring *in utero.*

(3,) Tuberculosis is apparently at times confined to the generative organs of women, probably with greater frequency than we now recognize.

(4,) Bacilli or their spores can be conveyed by means of seminal secretion to women when no apparent tubercular lesion is present in the male generative organs.

(5,) Women may, and often do, escape tuberculosis when transmitted in this way, and even when evidence exists of tuberculosis of the male generative organs.

(6,) It is not possible for the father to transmit his disease directly

to the fœtus, the mother not proving a fertile soil, and, if so, is it not possible for this inheritance to become latent in the child only to manifest itself when accident or environment tends to bring it into activity? And can we not go still further and assert that the bacillus or its spores, inherited from either parent, may be carried into another generation and either become manifest in glandular affections, joint troubles, or even finally in pulmonary disease?

Authorities agree that fully 50 per cent. of phthisis cases show the taint in their family record, and though the contagionists would wish us to believe that the *susceptibility* only is inherited, we feel convinced that tuberculosis, like syphilis, often gets more than susceptibility from its progenitors.

REFERENCE.—[1] "Archiv. Pæd.," Sept., 1893.

[*Editorial.*

Dr. Woolsey[1] directs that, in employing **Iodoform Injections,** the emulsions should be freshly prepared, sterilized, and that full antiseptic precautions should be carried out in their administration. In case of abscess, the contents are evacuated, the cavity washed out with an antiseptic, and moderately filled with the emulsion. Joints are similarly treated, unless pus is absent; then the emulsion is injected and distributed by passive motions and massage. Fistulas should be treated by parenchymatous injections into their walls with a hypodermic syringe.

Bier's[2] method consists in the induction of passive hyperæmia by applying a pressure bandage to the limb involved up to the seat of tubercular swelling; just above the latter, a constriction band is applied, and, if possible, the resulting hyperæmia is kept up until all active signs of tuberculous disease disappear. If the fingers or toes are subjected to this treatment, the ligature placed around their roots must be relaxed for a portion of the day.

Kanasz[3] has employed **Essence of Cloves,** dissolved in olive oil, in 10 per cent. strength, as an injection for local tuberculosis. Antiseptic precautions are observed, and, in suppurative foci, the pus is withdrawn previous to the injection. As a rule, a week was allowed to elapse before the procedure was repeated.

Moncorvo[4] reports successful adoption of Professor Lannelongue's sclerogenic method for glandular enlargements. He made injections of from 3 to 4 drops of **Zinc Chloride Solution,** 1 in 40, repeating the injections as often as pain would allow, and giving finally two injections of 1 to 20 strength at intervals of a fortnight. As a result, the gland mass shrunk, and was almost imperceptible after three months had elapsed.

Dr. Howe[5] concludes that removal of diseased tissue by operation is the only effective treatment for tuberculosis of the skin. **Salicylic Acid** in **Diachylon Ointment** proved the most useful palliative but did not cure the condition.

REFERENCES.—[1] Woolsey, "New York Med. Journ.," Feb. 25, 1893; [2] "Therap. Gaz.," June 15, 1893; [3] Ibid., Dec., 1892; [4] Moncorvo, "Les Nouveaux Reméd.," Aug. 8, 1892; [5] "Practitioner," Dec., 1892.

TUMOURS INVOLVING BOTH ORBITS. (See "Eye.")

TYPHOID FEVER. *R. Shingleton Smith, M.D.*

During the last two decades the treatment of enteric fever has been slowly undergoing a process of evolution involving many and great changes. The statistics showing the high mortality under what was called "the expectant plan" have been often quoted, and have recently been collected by Dr. Gilman Thompson, of New York. They show a death-rate ranging from 17 or 18 up to 49 per cent., and in New York city from 1876 to 1885 a series of 7,712 cases had a mortality of 41·28 per cent. On the other hand, it is now a matter of ancient medical history that Brand and his followers claim to have reduced that mortality to 3·9 per cent. in a series of 5,573 cases, by means of thorough antipyretic treatment.

At the Bristol Royal Infirmary we commenced a more or less systematic treatment by antipyretic methods in 1878, and the statistics from that time are as follows: 1878 to 1883.—One hundred and ninety cases; number of deaths, nineteen. Three fatal cases, found to be due to other causes, reduce the mortality to sixteen; giving a per-centage of 8·2.

The number of recoveries was	176
Of these, no special treatment in	119
Quinine only	15
Baths only	14
Various combinations—quinine, salicylates, resorcin, kairin, digitalis	28

More recently the results have been collected for me by Mr. Ormerod, showing a mortality of 15·38 per cent. in a series of two hundred and twenty-one cases, extending over nine years.

All are agreed as to the efficacy of the **Cold Bath,** not only in reducing the temperature, but in reducing the severity of the general symptoms, and where time is an object it still remains the only reliable method for the graver forms of hyper-pyrexia. **Quinine** in large doses has also been abundantly proved to be a reliable antipyretic when used in a particular way, but it cannot be too definitely stated that

5 or 10 grains of quinine, even when given every three or four hours, is not an antipyretic dose—which should be, for an adult, not less than 30 or 40 grains within one hour. The cold bath, and quinine, formerly gave us excellent results, and we rarely failed to keep down the temperature below the 103° line without any other medicinal means.

But the systematic use of the cold bath was gladly given up in favour of the long list of modern antipyretic drugs of the aromatic series. One after another of these has fallen into disrepute, and even the favourite antipyrin has now been to a very large extent superseded by the more modern favourite **Phenacetin,** around which the antipyretic treatment of typhoid now for awhile appears to rest; and we may regard phenacetin and the cold bath as the two rival methods struggling for mastery. Phenacetin, in doses of 3 to 8 grains—5 grains usually suffice in the adult—gives a marked fall of temperature in about thirty minutes after ingestion, and the reduction continues usually from four to six hours. If larger doses be given, profuse perspiration may occur, but no bad consequences supervene; and I quite endorse the statement of Goldmann and of Shoemaker that it is "the safest and most efficient member of the aniline group."

Dr. Ott[1] states that in the first week of typhoid fever phenacetin repeated for several days causes the greatest relief to the severe pain in the head; it quiets the restlessness and promotes sleep; and that phenacetin is less dangerous than the other antipyretics. In rapidity of action, **Antipyrin,** on account of its solubility, comes first, next **Antifebrin,** and last **Phenacetin.** The fall of temperature by phenacetin is more gradual, and the minimum is not reached for three, four, or even five hours after the administration of the drug. As regards duration of action, that of phenacetin is longer than that of antipyrin or antifebrin. Neither has phenacetin so great a destructive influence upon hæmoglobin as kairin, thallin, or pyrodin, nor is it so apt to cyanose as acetanilide. Ott points out that phenacetin decreases heat production, the bath increases it; the one permits the source of thermogenesis to go on actively, the other represses it. In our own experience at the Bristol Royal Infirmary and elsewhere, phenacetin has superseded all other antipyretics. We rarely find that it fails, and we have no hesitation in repeating the dose, hour after hour, until the effect comes.

Of all the numerous methods which have been suggested for the production of *intestinal antisepsis*, probably **Calomel** may prove to be one of the best. It has a lengthened history, and is now again revived and adopted by Dr. Latham, who states that 5-grain

doses during the first week will be likely to retard decomposition due to low organisms, and give such results as have been recorded by Leibermeister, who believes that it materially shortens the duration and lessens the intensity of the disease when given in doses of 8 or 10 grains three or four times in the first twenty-four hours, before the ninth day of the fever. This method was advocated long ago by Murchison, Niemeyer, John Harley, and others; but, possibly under the influence of the long-abiding anti-mercurial craze, has not been received with a sympathetic consideration by the profession as a whole.

It remains to be yet proved what drug will give the best results where intestinal antisepsis is indicated. It has been pointed out by Dr. H. Elliott Bates,[2] that in the prevention of self-infection from the intestinal tract, certain drugs have a selective action for particular parts of the alimentary canal; that for the gastric portion **Bismuth** and **Charcoal** are the best; but for the small intestine we should choose **Salol, Sodic Salicylate** or **Benzoate, Camphor**, or **Ammonium Benzoate**; whilst for the larger bowel we should prefer either **β-Naphthol** or **Charcoal.** For the mouth it has been stated by M. Paul [3] that nothing is better than **Saccharin.**

It is to be expected that any efficient antiseptic will at least serve to prevent the relapses which are so frequent in typhoid, and it is highly discouraging to find that nearly every one of the drugs in use fails in this respect, inasmuch as I have observed relapses (and sometimes more than one) after a steady perseverance in carbolic and iodine, after β-naphthol, hydro-naphthol, and salol. Much evidence has already accumulated; but much more is needed, and can only be obtained by steady and painstaking perseverance by a multiplicity of observers in epidemics of varying degrees of intensity.

For the present, **Carbolic Acid** pills, grs. 2½ to 3, **Keratin** coated, as advised by Dr. Charteris[4], are theoretically indicated, and have given excellent results.

REFERENCES.—[1]Ott, "Modern Antipyretics," Easton, Pa.; "Clinical Journal," July, 1893; "The Medical Week," Aug., 1893; [2]"New York Med. Journ.," April 22, 1893; [3]"Société de Thérap. Mercredi Méd.," No. 2, 1893; [4]"Brit. Med. Journ.," vol. ii., 1892.

TYPHUS.

Dr. Cerna advises perfect isolation, good ventilation, scrupulous cleanliness, and thorough disinfection of all clothing and of the house. A healthy nurse and one who has had typhus should be selected. All utensils, before and after usage, must be thoroughly washed with boiling water; the hands of both nurse and patient disinfected with

antiseptic solutions, and the vessels employed for the *ejecta* disinfected with great care. The alimentation should be of a liquid nature, chiefly of boiled cow's or goat's milk—2 to 2½ pints in the twenty-four hours—to which tea, coffee, or orange-leaf water may be added. The free use of tea and coffee should be allowed, but in small quantities, frequently given. Later in the disease, and especially during convalescence, chicken and other animal broths, eggs, beef-tea, are given. The latter is administered twice a day—at noon and at night—with all due regularity. Fruit, such as baked apples, oranges, and the like, is sometimes allowed, with, of course, the necessary precautions. Care must be taken not to overload the stomach. Before and after the ingestion of food the mouth of the patient is thoroughly cleansed with a soft cloth moistened in a mixture of equal parts of distilled water and lemon-juice. Between meals the mouth may be washed with alkaline solutions. Thirst may be relieved by means of acidulated drinks. Above all, typhus fever requires a great deal of attention to be paid to alimentation, and the high mortality of epidemics is due chiefly to lack of proper nourishment The treatment is mainly expectant, but the chief object is to keep up the strength of the patient. **Alcohol** is one of the principal agents to be used from the outset. Good brandy, with sufficient sugar, in distilled water, to ½ a pint a day, or more, if the patient is unable to take food, is an efficient combination. Alcohol can also be used in the form of eggnogs and milk-punches. In the adynamic form other stimulants and tonics besides alcohol are often of great service. **Ammonia**, **Nux Vomica**, and **Quinine** are indicated. If the nervous symptoms are prominent, accompanied by marked excitement and an elevated temperature, as in the ataxic type, these remedies are of little or no value, and may often do harm. If a condition, not of depression but of exhaustion, is present, nothing produces better results than the administration of **Musk** in full doses. Constipation is the rule in this fever. This symptom, as well as the marked meteorism accompanying it, are combated chiefly by saline purgatives, preferably the **Sulphate of Magnesia,** or by mechanical means. **Calomel** in fractional doses is sometimes employed for this purpose ; cold-water enemata or glycerin suppositories are of use. Intestinal antisepsis is important ; **Salol** by the mouth and by the rectum is used, provided the kidneys are in good condition ; also **Permanganate of Potassium** by rectal injection. Epistaxis is controlled by cold applications to the forehead. The catarrh of the stomach, a troublesome symptom at the commencement of the disease, is best treated by **Ipecacuanha,** other emetics being avoided, and food can be administered by the

rectum. The severe headache, the delirium, and the insomnia are relieved by opiates, and particularly by the use of **Chloral. Hyoscine** is sometimes used with good effect, especially in violent delirium. If the insomnia is without headache it may be relieved by **Valerian** or **Camphor.** The fever may be controlled by **Quinine** if it occurs in exacerbations, as in malarial regions, or tepid baths cooled down to the required degree. In marked prostration, and when collapse is imminent, strychnine has been used with benefit.

REFERENCE.—"Med. Review," No. 21, p. 403, 1893.

ULCER. *T. Colcott Fox, M.B.*

In simple ulcers of the legs Eichoff of Elberfeld warmly recommends **Europhen** as a dusting powder, the parts being previously washed with a 3 per cent. carbolic solution. They are then covered with gauze and a firm bandage applied. The dressing should be changed as frequently as the amount of secretion necessitates. **Alumnol** is another new drug which is recommended by Chotzen, but as yet has not been sufficiently tried. Weismüler advocates the following powder for painful discharging ulcers :—

℞ Acid Salicylici	partes 8	Amyli	
Acid Borici	,, 4	Talci pulv. āā	partes 30
Zinci Oxidi	,, 3		

Milton Hartzell finds that **Resorcin Ointment** (3—5 per cent.) relieves pain. Henry S. Purdon in some remarks on old-fashioned but useful skin remedies, says that ʒj—ʒij of **Friars Balsam** in ʒj of zinc ointment is nearly a specific for indolent sluggish ulcers. Cordebard devotes a thesis to the treatment of varices and varicose ulcers by ligature and resection of the internal saphenous vein.

Kirsch of Breslau suggests a new treatment for varicose ulcers: Deep ulcers are carefully packed with iodoform gauze, which should not extend over the edges of the ulcer. The edges and the surrounding skin are dusted with dermatol, and the whole is covered with a compress of absorbent wool. Over this compress a large and smooth sponge wrung out of water is applied in such a way as to exceed the ulcerated surface in all directions.

In cases of shallow or granulating ulcers, a compress saturated with a solution of acetate of aluminium is applied directly to the ulcerated surface without packing with iodoform gauze. The compress is covered with a piece of impermeable tissue of some sort, over which the sponge is placed as in the former case.

In either case the limb is bandaged up from the toes as far up as the knee, so as to cover the sponge, but with moderate pressure so as to avoid causing pain or discomfort. The improvement continues until

the packing and compress can be replaced by the application of an antiseptic ointment. Elastic compression with the sponge should be kept up, however, until complete cicatrisation, and even for some time thereafter.

Cases are occasionally met with, however, in which the edges of the varicose ulcer are so extensively indurated, that no amount of elastic compression will succeed in softening them. Under these circumstances, Kirsch employs a small roller which is carried over the affected parts with a certain amount of pressure, and massage.

Where the ulcer is exceedingly tender the leg is bandaged up above and below, leaving the tender area around the ulcer uncovered. To this a simple wet compress is applied covered with a piece of gutta-percha or other impermeable tissue. Each time the dressing is changed, the bandage is carried a little closer to the ulcer, until it is applied to the edges of the latter without causing any pain to the patient. Elastic compression of the ulcer through a moist sponge may then be commenced.

REFERENCES.—Weismüler, "Therap. Monats.," Jan., 1893; Tessner, Ibid., Oct., 1892; Hartzell, "Therap. Gaz.," April 15, 1893; Purdon, "Dublin Med. Journ.," Aug., 1893; Cordebard, "Thèse de Paris," May 24, 1893; Kirsch, "Therap. Monats.," Sept., 1893 (quoted "Sem. Med." and "Brit. Med. Journ.")

Synopsis.—(Vol. 1893, p. 25.) Euphorin is recommended as an excellent dusting powder.

ULCUS MOLLE. *T. Colcott Fox, M.B.*

Balzer, of the Hôpital du Midi, after an interesting review of the methods of treatment in vogue, gives his own plan as follows :—

(1,) Scrupulous cleanliness and complete asepsis. Aubert's local hot baths (40° C.) often give good results.

(2,) After the local bath, caustics are used in the form of solutions or pastes made with chloride of zinc, silver nitrate, phenic acid, etc. Balzer prefers a paste of chloride of zinc 1 part, oxide of zinc 9 parts, water sufficient to make a paste. These caustic applications are made until the virulent ulcer with its auto-inoculable and infective pus has been converted into a simple ulcer.

(3,) Then, or in the intervals of caustic treatment, feeble antiseptics are called for in the form of powder or solution, *e.g.*, iodoform, aristol, silver nitrate, etc.

(4,) The patient should keep quiet and avoid all sources of irritation. Tonics should be given if the patient is weak. Ricord used to say that tartrate of iron and potassium externally and internally was the sworn foe of phagædena.

Brocq advises: (1,) Washing morning and night with boric acid water, as hot as possible; (2,) The application once a day of nitrate of silver solution (1 in 20); (3,) Dressing rigorously carried out with powdered iodoform; (4,) A well-made protective covering.

Welander, of Stockholm, proposes a somewhat elaborate treatment, the principle of which is to destroy the chancroidal virus by heat. The edges of the chancre are excised, and the part covered with layers of cotton-wool compresses, wet with hot water. On this again is placed a leaden pipe coil, through which water at 50° C. circulates. The patient keeps in bed, and in two days the chancre is transformed into a non-virulent sore, which heals rapidly under the influence of dermatol.

REFERENCES.—Balzer, "Intern. Clinics," 2nd ser., vol. 4, 1893; Brocq, "Journ. Cut. and Gen.-Urin. Dis.," March 1893; Barduzzi, "Il Commentario Clinico delle Mat. Cut. e Gen-Urin. Siena," 1893; Quinquaud and Nicolle, "Journ. Cut. and Gen-Urin. Dis.," March, 1893; Petersen, "Centralb. f. Bact.," June 1893, and "Brit. Med. Journ."; Welander and Estay's "Thesis" quoted in "Semaine Méd."; Eichhoff, "Therap. Monats.," Jan., 1893.

URÆMIA.

Bouchard sums up the treatment thus: Diuretics, and at the head of them milk; milk as a food; intestinal antisepsis; bloodletting for the accidents immediately threatening; lastly, **Inhalations of Oxygen. Digitalis** usually succeeds best where cardiac troubles are associated with renal disease, if the latter is not far advanced. Later on, its action must be closely watched, and its administration discontinued if nausea and vomiting appear. In uræmia, characterized by violent gastro-intestinal symptoms, digitalis is contra-indicated.

REFERENCE.—Bouchard, "Medical Age," Oct. 10. 1892.

URETERS (Surgery of). *E. Hurry Fenwick, F.R.C.S.*

Occlusion of the Ureters.—Some interesting experiments upon ligature of the ureters in dogs have been made by Robinson[1], of Chicago, and, although the series is too small a one to dogmatize upon, it affords the basis for the belief that complete occlusion of the ureter produces atrophy of one kidney, and partial occlusion induces hydronephrosis. Dr. Robinson asserts that the kidney will bear complete occlusion for some weeks, and then resume its function after the obstruction and pressure have been removed. He mentions the case of a lady whose ureter was ligatured and remained thus constricted for six weeks, yet the kidney resumed its work after removal of the ligature. He states that he believes that the ureter is occluded

in the ligature in three cases in every hundred of vaginal or abdominal hysterectomy.

Lewin and Goldschmidt[2] have published an important series of experimental researches upon the behaviour of the ureter under intra-vesical pressure. They prove that, in the guinea pig and rabbit, the ureters and pelves of the kidneys are quickly filled with any form of injection distending the badder. Milk, air, or coloured fluids injected into the bladder were seen through a laparotomy wound to rapidly overcome the sphincter which exists at the lower end of each ureter, and to gradually fill and over-distend the upper urinary passages. It is stated, moreover, that when the distension was not carried to excess, the ureters spasmodically contracted, and attempted to rid themselves of their foreign contents. These facts will probably explain much that is, at present, unaccountable in renal surgery, viz., the causation of hydronephrosis without apparent obstruction of the ureter, the rapid onset of urethral fever, etc. It points also to the danger of introducing air into the bladder in irrigation ; and to the questionable value of using air in expanding that viscus for suprapubic cystotomy.

Uretero-Enterostomy.—Morestin[3] shows, experimentally, how unsatisfactory is the plan of fixing ureters into the rectum or intestine. Either the cut ends of the transplanted ureters slip, and fatal peritonitis ensues ; or, if the stitches hold, the orifice of the ureter either remains permeable, and permits microbic infection of the kidney from the gut, or contracts, and hydronephrosis ensues.

Resection of Ureter.—The surgery of the ureter is added to by a case recorded by Kuester : A boy of thirteen had stricture of the commencement of the ureter, and consequent pyonephrosis of the same side. Nephrotomy was performed, and, as all the urine was discharged from the wound in the loin, it was inferred that the other kidney was absent. The ureter was resected at the pelvis of the kidney, and as its lower end was dilated, it was attached by stitches to the dilated pelvis, and the continuity of the canal established. The lumbar route was chosen.

Extirpation of Ureter for Pyelitis.—Dr. Paul Regnier[4] relates a very instructive case of obstinate unilateral pyelitis. On performing nephrectomy for pyonephrosis in a young man of twenty, the ureter, which was dilated to the size of small intestine, was dissected out for some distance, ligated, and cut off. The pyelitis, however, continued, and the lumbar wound was reopened, and the stump of the ureter was found and enucleation was commenced ; twelve centimètres were, unfortunately, torn off in the effort to dissect out the tube, and the lower end retracted out of sight. The pyelitis still continued, whereupon the

lower end of the ureter was attacked by a perineal incision, which exposed the vesiculæ seminales, the prostate and *bas fond* of the bladder, but the ureter was not discovered. The inguinal route was therefore adopted. The bladder and rectum was distended, the inguinal canal opened up, the peritoneum lifted up as if for ligature of the iliac artery as far as the point where the ureter crosses the iliac vessels. Here the ureter was discovered; it was dissected downwards and isolated till it was flush with the bladder; it was then ligated and cut off. The pyelitis was cured. Dr. Regnier believes that those who have stated that lesions of the ureter may be expected to disappear after nephrectomy are in error, and complete ureterectomy will have to be carried out in many cases. He advises the inguinal canal incision.

REFERENCES.—[1] "Annals of Surgery," p. 2, vol. xvii., 1893; [2] Virchow, "Archiv.," Bd. 134, Heft 1, p. 33; [3] "Bull. de la Soc. Anat de Paris," Fascic. 31, 1892; "Brit. Med. Journ.," Epit., p. 33, 1893; [4] "Bull. et Mem. de la Soc. de Chir. de Paris," p. 102, March, 1893.

URETHRA (Surgery of). *E. Hurry Fenwick, F.R.C.S.*

Resection of the Urethra for Traumatic Stricture.—Vignard[1] looks upon resection as the best mode of treatment in stricture of traumatic origin, giving a radical cure, while temporary benefit is all that can be hoped for from other methods. It is especially indicated in impermeable strictures following accidents, and in well-defined non-dilatable strictures. Fifteen cases are reviewed, and they show that the resected ends of the urethra can usually be brought together and sutured. It is important to unite the soft parts with great accuracy. Drainage is not necessary in most cases, but a retention catheter should be left in for *six* days.

Manley[2] advocates partial resection of the urethra as a method for radical treatment of rupture of the urethra, fistula, or organic stricture, and records two cases in which he obtained good success from the procedure. The operation, which dates from 1812, was made the subject of a lecture by Guyon, who stated that Roqués, one of his internes, had been able to collect sixty-four cases from all sources. Forty-nine of these were complete, and fifteen incomplete, resections. Guyon advanced nine cases of lesions of the perineal urethra thus treated in his own wards, six being by himself.

In all these cases, the operation was resorted to only when the passage of instruments was quite impossible. Four were traumatic, two were blennorrhagic. In two, there were fistulæ. In all, the entire calloused mass was removed, and prompt union followed. The patients ranged from fourteen years to fifty years of age.

From a consideration of his two cases, of another by Wile, and a fourth by Champonnière, in addition to those mentioned and recorded by Guyon, Manley postulates the following :—

(1,) In all cases of traumatic rupture of the urethra, the tissues should be laid open as early as possible, and the continuity of the lumen of the urethra should be entirely restored by urethrorrhaphy.

(2,) In those urethral perineal fistulæ which resist tentative measures, regardless as to their traumatic or blenorrhagic origin, they should be resected, and the continuity of the canal restored.

(3,) In rebellious strictures inappropriate for internal urethrotomy or divulsion, an external urethrotomy should be performed, and the opportunity seized to "hew a gutter through the cicatricial tissues," and to reconstruct the floor of the canal with the adjacent connective tissues.

(4,) In all cases, the most rigorous asepsis should be employed, and the aim in every case should be to secure non-suppurative primary union.

REFERENCES.—[1] "Arch. Prov. de Chirurg."; "Journ. Cut. and Gen.-Urin. Dis.," p. 241, June, 1893; [2] "Annals of Surg.," p. 188, vol. xvii.

URINE.

Mr. Stillingfleet Johnson[1], discussing the reducing power of normal healthy urine on cupric salts, suggested a test for sugar by precipitating the urine with lead acetate, and rendering it alkaline with caustic potash. A solution of phenylhydrazine is then poured in, and the mixture is well shaken and boiled. The presence of sugar is marked by the formation of an orange-coloured coloration. Normal urine gives negative results with this test. Dr. Hunter, on the other hand, showed that a much more delicate test is that afforded by the use of benzoyl chloride, which gives a bulky precipitate in far more attenuated solutions of sugar; and another test of the even greater delicacy is obtained by the addition of a solution of α-naphthol to urine previously rendered strongly alkaline by the addition of caustic soda, resulting in a violet hue in the presence of carbohydrates. With these tests, he affirmed that every sample of healthy urine can be proved to contain an appreciable quantity of carbohydrates.

Spiegler[2] describes a new test re-agent for albumen, consisting of corrosive sublimate 8, tartaric acid 4, distilled water 200, and glycerine 20. A few drops of strong acetic acid are added to the urine, which is then filtered if any cloudiness (mucin) appears. Experiment shows that the amount of mucin left after the addition of the acid is too small to interfere with the reaction. The urine is then allowed to flow

from a pipette along the side of the test tube upon the re-agent. A clear white ring is formed at the junction of the liquids. If iodine is present in the urine, the test is not quite so reliable, for a yellow ring forms, but this is soluble in alcohol.

According to Dr. Heinrich Rosin[3], a very sensitive test for bile pigment is as follows: From the official tincture of iodine and spirit, a weak tincture is made of the colour of port wine. Two small drops of this to a quarter of a test-tube of spirit forms a suitable testing fluid. In a second test-tube some of the urine to be examined is put, and the iodine solution is carefully poured over it so that it lies on the surface without mixing. Immediately, or after the lapse of a minute, there appears on the boundary between the urine and iodine solution a grass-green ring, which remains some time. If the urine contain no bile pigment, a simple discoloration of the yellow colouring matter results at the junction of the two fluids, forming a light yellow or almost colourless ring.

REFERENCES.—[1] "Med. Press and Circular," Feb. 22, 1893; [2] "Brit. Med. Journ.," Feb 18, 1893; [3] "Practitioner," April, 1893.

Synopsis.—(Vol. 1893, p. 539.) Spiegler recommends an albumen test, Mercuric Chloride 8 parts, Tartaric Acid, 4 parts, Sugar 20 parts, Water 200 parts. Alkaline urine must be acidulated with Acetic Acid, also if it contains much mucin. Jaworowski advises Molybdenate of Ammonium 1 part, Water 40 parts, heat together and mix with Tartaric Acid 5 parts, and then filter if necessary; for this the urine must be acidulated with tartaric acid if alkaline, and must be clear. **Piperazine** in 15 to 30 grs. daily, diminishes urates rapidly. Herget combines it with **Phenocoll**, dissolving 15 grs. of each in a pint of soda water. Schweninger has used Piperazine locally, 1½ grs. in 10 per cent. solution, using two or three injections daily: he has also found it valuable in renal colic. Vespa has found **Milk Sugar** to be a useful diuretic in heart disease and pleural effusion. Svetükhin commends **Copaiba Resin** as a diuretic.

URINE (Incontinence of in Women).

Synopsis.—(Vol. 1893, p. 540.) Bagot recommends **Massage** after the method of Thure Brandt.

URINE (Retention of). *F. Hurry Fenwick, F.R.C.S.*

Is Aspiration for the relief of Vesical Distension always practicable?

This question is asked by Eugene Fuller,[1] who reports a case in which aspiration above the pubes was impossible.

A patient sixty-five years of age was seized with retention, and commenced catheter life. Maltreatment induced a deep false passage, and catheterism became impossible. An attempt was made to aspirate above the pubes, but the anterior part of the enlarged prostate was struck each time, and by percussion it was obvious that the peritoneum descended too near the pubes for the needle to be inserted higher.

Under an anæsthetic, an English catheter on a stylet was introduced, and a quart of foul-smelling urine was withdrawn, and on deep suprapubic pressure the prostate could be felt much enlarged. The patient became uræmic, and sank at the end of a week.

The value of the case is much diminished by the absence of a *post-mortem*, and any clue as to the character of the extraordinarily enormous enlargement of the anterior lobe of the prostatic body is lost.

Evacuation of the Bladder by Pressure.—Wagner[2] stated that he had noticed, in cases of vesical atony and loss of knee jerk, due to spinal disease, that the tonus of the vesical sphincter is so far diminished as to allow of the urine being expelled by suprapubic pressure.

Thus in tabes, tabetic general paralysis, polyneuritis with vesical derangement, and injuries of the spinal cord with loss of knee jerk, suprapubic pressure may be sufficient to evacuate the bladder, and the catheter need not be used. If the knee jerk be *increased*, external pressure fails to overcome the sphincter.

REFERENCES.—[1] "Journ. Gen.-Urinary and Cut. Diseases," p. 190, 1892 ; [2] "Neurol. Centralb.," April 15, 1893.

URTICARIA. *T. Colcott Fox, M.B.*

T. Barthélemy deals with the subject of *dermographism*, cases of which are often reported as *factitious urticaria*, in a very interesting monograph, full of curious information, historical and otherwise. An illustrative case was recently figured by Hilton Thompson in the "Lancet." Barthélemy suggests for treatment that the elimination of toxic agents, which he thinks act as the exciting cause, should be promoted by stimulating the function of the various depuratory glands. In the next place the digestive functions should be placed in perfect order, so as to reduce to a minimum the formation of toxines. Thirdly, the waste of the organism should be repaired, and especially the morbidly impressionable nervous system should be placed in a state of the greatest resistance by high doses of **Strychnine**, 5 to 6 milligrammes daily, for example, for fifteen to eighteen days in the month. Lastly, perfect repose of the nervous system should be encouraged by the avoidance of distractions, and by stimulating frictions or massage, exercise, change of air and scene, and hydropathy.

Another very interesting publication which will repay study is a general review of urticaria by Dubreuilh. Symptomatic treatment, the author says, is directed to procure an immediate assuaging of the symptoms. The suppression of the real cause of the eruption is the more essential and the more difficult, and can only be appreciated by a study of the etiology. For symptomatic treatment the author recom-

mends the application of lotions of **Aromatic Vinegar** with about 3 per cent. of **Phenic Acid,** or of vinaigre de Pennès diluted with 1, 2, or 3 parts of water. The skin is immediately powdered with talc, to which 1 per cent. of salicylic acid is added. The author has also seen capital results from the application of **Oil of Sweet Almonds,** to which 5 to 10 per cent. **Menthol** has been added, or from an alcoholic solution of menthol.

Scanza effected a prompt cure in a case of urticaria associated with the phenomena of marked dermographism and hyperæsthesia in a very neurotic student by the **Galvanic Current** and internal administration of **Strychnine.**

Prentiss affirms that **Pilocarpine** has succeeded where many other well-known remedies have failed.

REFERENCES.—Barthélemy, "Étude sur le Dermographisme on Dermoneurose taxivasomotrice," 1893; Dubreuilh, "De l'urticaire Gaz. des Hôpitaux," Oct. 22, 1892; Scanza, "Riforma Medica," 1893, No. 72, and "Monatsh. fur Prakt. Derm."; Prentiss, "Therap. Gaz.," Oct. 16 1893.

UTERUS.

From the experiments of Drs. Herman, Fowler, and Emile Blanc,[1] the practical conclusion deduced is that while in a perfectly normal lying-in ergot is not required, yet when any cause of imperfect involution is present, or suspected to be present, **Ergot,** given throughout the lying-in period, will counteract its influence, will promote involution, and should therefore be given.

According to Blanc,[2] the most important characteristic of **Ichthyol** is its local action of vaso-motor constriction when applied to a mucous surface. It causes a rapid disappearance of hyperæmia and of the pain due to congestion, and seems to influence the congestions of the tissues underlying the mucous surfaces. For this reason Freund highly recommends its use in chronic metritis, parametritis and perimetritis, in salpingitis, in erosions of the os, and in pruritus of the external genital organs. He uses it externally and internally. Externally he applies a 5 per cent. solution of sulphichthyolate of ammonia in glycerin to the vagina by means of tampons, and rubs into the abdomen an ointment of equal parts of ichthyol and lanolin. He uses capsules containing 1·5 millimètres of ichthyol three times daily, and suppositories containing from 1 to 3 minims.

Dr. Stanislaus Kurtz[3] prefers **Thiol** to ichthyol on account of the absence of odour, smarting sensations during application, or tendency to stain the linen in the former, all of which disadvantages attend the use of ichthyol to some extent. As to the therapeutic uses

of thiol, Dr. Kurtz has employed it both in hospital and private practice in endometritis after abortion, endocervicitis with erosions, and in parametritis. He reports his experience in nineteen cases, in every one of which the results were satisfactory. He used a solution of from 10 to 20 per cent. for applying to the cervical canal either with a probe or by means of tampons impregnated with the solution. Effusions and solid exudations were rapidly resolved by means of thiol tampons in the vagina, and these also allayed the pain complained of in the lumbar and pubic regions. In very long-standing cases of pelvic exudations, Gottschalk, of Berlin, has very successfully employed thiol tampons simultaneously with inunction of the same substance over the lower part of the abdomen; he also sometimes employs it internally.

Hovent[4] is quoted as administering **Permanganate of Potassium** as an emmenagogue and utero-ovarian tonic for five to eight days before the proper period of menstruation, but it should not be continued during the flow. The dose which he administers is ½ to 1 or 2 grains three or four times a day. In order to avoid any disorder of the stomach, the drug must be well diluted with water.

Passower[5] remarks the tendency of the morphia habit to produce atrophy of the female generative organs. Probably the ovaries are the first to suffer, as manifested by early amenorrhœa; from thence the atrophic process extends to the uterus and external genitals.

Dilatation of Uterus.—Dr. Lombe Atthill[6] is perfectly convinced that the initial steps of labour in general are first relaxation of the muscular fibres surrounding the os, and then their retraction; it is subsequent to this that the contraction of the body of the uterus comes into play. When we desire to dilate the cervix by artificial means, it is most desirable to induce this relaxation and tendency to retraction. Under certain circumstances this may be a matter of no importance, as when the cervical canal is patulous or when the cervix is soft and dilatable, and in these conditions rapid dilatation is justified. In women who have never conceived, or when the os is small or the cervix rigid, rapid dilatation should not be attempted. In all such cases he introduces one or two laminaria tents to soften the cervix and set up the tendency to retract. At the end of eight or ten hours this effect is produced, and in general Number 10 or 12 of Hegar's dilators will pass through the os internum readily. Dr. Atthill retracts his former expression of opinion that the curette is "an unscientific instrument," but says that the curette used should not be too small. He does not rely on the use of the curette alone, but now almost invariably injects into the cavity of

the uterus, after the lapse of about three days, a small quantity of **Iodised Phenol**, using for the purpose one of Braun's syringes. In all cases in which he dilates and uses the curette he injects the iodised phenol several times, at intervals of from four to six days. He believes the use of this injection will frequently render the use of the curette unnecessary, and that it is useful in all those cases in which curetting has been practised.

REFERENCES.—[1] "Therap. Gaz.," April, 1893; [2] Blanc, "Revue de Thérapeutique Médico-Chirurg.," No. 4, 1893; [3] Kurtz, "Lancet," Nov. 29, 1892; [4] Hovent, "Therap. Gaz.," June 15, 1893; "Journ. de Méd. de Paris;" [5] Passower, "Centrlb. f. Gynäk," No. 2, 1893; [6] "Pract.," Oct., 1882.

Synopsis.—(Vol. 1893, p. 544.) **Euphorin**, in powder, is a useful dressing for lacerations, and may be insufflated in catarrhal affections of vagina and uterus, or used in pessaries, which are about 4 centimètres long and contain 40 to 50 per cent. Euphorin; they are introduced every two or three days into the uterus. Reitman and Schönauer found **Ichthyol** very efficacious in acute and chronic inflammatory diseases of uterus and appendages. It is used as follows: ℞ Ammon. Sulpho. Ichthyol ʒijss, Glycerini ʒiij; for external application. **Oxygen Inhalations** are useful in chronic or acute thoracic diseases during pregnancy, also after delivery, and Rivière considers that placental disease may be influenced thereby; also in atelectatic conditions or in rickets. **Morphine** taken by the mother does not appear to influence the infant, but **Antipyrin** does.

UTERUS (Prolapse of). *Prof. B. V. Chalot, M.D.*

EXTRA-PERITONEAL METHOD OF SHORTENING THE ROUND LIGAMENTS FOR PROLAPSE (ALEXANDER'S OPERATION).

As I announced last year at the Congress in Pau ("Association francaise pour l'avancement des Sciences," Sept. 17, 1892) the method which I employ in order to shorten the round ligaments, offers the advantages of perfect safety and success, while at the same time it simplifies the usual operation as introduced by Alexander, from which it differs in the following particulars: (1,) By opening the inguinal canal in almost its entire length, by which we cannot fail to find the whole thickness of the round ligament, no matter whether the patient be fat or thin; (2,) By dissecting up each ligament beyond the internal inguinal ring and often even inside the abdominal cavity; (3,) By rendering unnecessary the help of an assistant to keep the uterus straight and lifted up during the operation; (4,) By the direct reduction effected solely by strong traction on the two ligaments; (5,) By suturing each ligament to the whole length of the inguinal canal; and (6,) By rendering unnecessary any kind of pessary after the operation.

I am convinced both by experiments on the dead body and by

clinical observation that the numerous procedures in vogue to-day often lead to an illusive replacement of the uterus by means of the ligaments, the merit of the cure, if obtained, being due rather to the manual or mechanical support maintained during the operation, and also to a Hodge's or a cup and stem pessary introduced afterwards in order to obtain the replacement.

To me the indications for shortening the round ligaments are : (1,) Painful retroversions and retroflexions, reducible at the first onset ; (2,) Those in which reduction has been accomplished after a course of treatment—massage, gymnastics, etc. (I rarely now use pessaries) ; (3,) Certain conditions of prolapse of the uterus in which the shortening is combined with colporrhaphy, and, if necessary, with amputation of the cervix.

The operation, as performed by the author, is as follows :—

(1,) *Incision of the Integuments and finding the External Abdominal Ring.*—Having shaven the external genital organs and emptied the bladder, the vulva, vagina, and both inguino-crural regions should be made thoroughly aseptic, and the uterus, whether replaced or not, should be curetted, as chronic endometritis is very often present as a complication. The patient being placed on her back, the crural ligaments and pubic spines should be made out, the latter being three centimètres outside the symphysis. The skin and superficial fascia are divided by an incision four to five centimètres long, parallel to the crural arch, and passing about one centimètre inside the spine of the os pubis of the same side. Forcipressure of one or two branches of the superficial epigastric artery will be necessary.

The aponeurosis of the external oblique muscle now comes into view, and the little oblique depression which represents the external inguinal ring should be looked for just above the spine of the pubes, limited externally and above by the arched fibres of the aponeurosis. This is the principal landmark.

(2,) *Incision of the Inguinal Canal and deep Dissection of the Round Ligament.*—Pinch up the thin cellular membrane which covers the external inguinal ring and cut it with scissors curved on the flat ; a little ball of fat—the ball of Tuilach—now comes into view through the opening, and should be removed. Introduce a director through the ring, pass it behind the anterior wall of the inguinal canal for three to three and a half centimètres and divide the anterior wall by running a knife along the director to the same extent. The inguinal canal now represents a gutter, in the depth of which the round ligament lies as a greyish red cord, and can now be picked up in its whole thickness with perfect ease.

The genital branch of the genito-crural nerve runs along its anterior surface. Dissect up the round ligament (without exposing it to any undue tension) as far as the spine of the pubes in one direction, and in the other as far as the whitish peritoneal cul-de-sac, which is brought into view by traction on the ligament. Cover up the wound for the time being with a pad of cotton wool wrung out of an antiseptic solution, and repeat the operation on the opposite side.

(3,) *Rectification of the Position of the Uterus solely by Simultaneous Traction on the two Round Ligaments.*—Pull on the ligaments—by the fingers or forceps—at the internal inguinal ring on each side, using as much traction as the ligaments will stand. It can be determined by hypogastric palpation and vaginal examination if the fundus uteri is raised up towards the pubes. The ligaments are then dissected up still further by freeing them from the peritoneal *cul-de-sacs* until the fundus uteri can be drawn up behind the pubis. If the peritoneum happens to be torn no harm ensues, as I have frequently verified, as long as perfect asepsis is maintained.

(4,) *Excision and Suturing of the Ligaments.*—When the position of the uterus has been corrected by traction on the ligaments, the superfluous part of each ligament should be cut away. I remove as a rule ten to twelve centimètres. The rest of the cord is placed in the inguinal canal and fixed by a continuous suture of very fine silk or strong catgut running along from one ring to the other and embracing either half or the whole thickness of the ligament, the posterior wall of the canal, and the internal pillar of the inguinal ring.

(5,) *Closure of the Inguinal Canals and of each Cutaneous Wound.*—Bring together carefully the aponeurotic coverings of each anterior inguinal wall with another continuous suture of fine silk, obliterating also the external ring. Unite completely each cutaneous wound by interrupted horse-hair sutures, and apply an iodoform dressing. No drainage is required. A vaginal tampon of iodoform gauze is introduced, and a Skene or a Pezzer's catheter is placed in the bladder and allowed to remain. The horse-hair sutures are taken out on the fourteenth or fifteenth day after the first dressing.

I do not allow the patient to leave the bed till the twentieth day. I have operated in this way on twelve patients suffering from painful retroflexion, reducible or reduced before the operation. All the cases were successful except one, in which thrombosis of one femoral vein set in and necessitated two months' treatment. The rectification of the position of the uterus has been still maintained, in one case twenty-three months having elapsed since the operation ; in others twelve months, eleven and a half months, ten months, nine months,

eight months, seven and a half months, six months (three cases), two months. In no case has there been any symptom of hernia. As regards the mode in which my operation may influence the progress of pregnancy, I can as yet furnish no information.

Wm. Alexander, M.D., F.R.C.S.

PROF. B. V. CHALOT'S MODIFICATIONS.

Very few operations have been launched perfect from the hands of their first performers, and modifications are inevitable, not only for anatomical and surgical, but also for personal reasons. Some modifications are distinct improvements, either always or under special circumstances. Others are alternatives, each commending itself to certain surgeons according to their experience, predisposition, and idiosyncrasies.

Prof. Chalot's modification of the operation that goes by my name seems to me to be an alternative, and his description shows it to be an *effectual* alternative. Its distinguishing features consist in the opening up of the inguinal canal, and the disturbance of the peritoneum as much as is necessary to effect the purposes of the operation. *Some* opening up of the inguinal canal is frequently done by me, when the external inguinal ring is small, or when any difficulty is experienced in releasing the ligaments, and on one or two occasions, in my earlier operations, I opened up the inguinal canal as freely as Prof. Chalot recommends. Indeed, I have only one serious objection to opening up the canal as a *routine* performance, and that is the tendency it has, in common with all operations that cut through the planes of muscle and fascia that compose the abdominal wall, of laying the foundation of a hernia that will appear at a *remote* period. The careful reunion of all the cut layers of the abdominal wall neutralizes this tendency as far as possible, especially in Prof. Chalot's able hands. If this objection does not turn out to be a serious one, the modification may be adopted as an alternative, perhaps more likely to appeal to the inexperienced than the really more simple, but apparently more difficult, operation that I perform. I will now criticise, in a friendly way, Prof. Chalot's statements concerning the advantages claimed by him for his modification.

The differences numbered 3 and 4 in his paper do not exist. I have never employed "an assistant to keep the uterus straight and lifted up during the operation." I merely place the uterus in a fair position, with a "Hodge" to support it, and then pull the organ up by strong traction on the round ligaments, exactly as Prof. Chalot does, until I know, by experience, that the uterus is well forward towards the

abdominal wall. I have never required the aid of more than one assistant, in addition to the anæsthetist, and I am afraid Prof. Chalot would also require one to "palpate and examine the fundus uteri" while he is pulling up both round ligaments. These points are not, however, of any importance.

In regard to the difference numbered 2, viz., "the dissecting up of each ligament beyond the internal abdominal ring, and often even inside the abdominal cavity"—this does not seem to me to be a necessity in the class of cases for which I perform the operation. This procedure *need* not be a dangerous one, although thrombosis of a femoral vein somehow looks like a danger signal; but how such a procedure offers the *advantages of perfect safety* over the simple operation of mine passes my comprehension.

The term "inguinal canal" conveys to many of us an erroneous impression, the results of our anatomical training, until the impression is obliterated by surgical experience. An examination of some herniæ shows the canal converted into an opening, with the external and internal rings directly opposite each. Now, slight traction on the round ligament produces the same effect. The internal ring, situated in movable tissues, is brought almost directly opposite the external. The peritoneal investment of the ligament comes into view, and can be stripped from the ligament and pushed backward, whilst the ligaments can be so released that the uterus will dance like a puppet under their control. Again, when the ligaments are stitched to the pillars of the external abdominal ring, the ligaments will lie in the canal, and contract adhesions to its wall just as effectually as if retained by a row of sutures.

A short description of the operation, as performed by me at the present time, may be useful.

I introduce an easy-fitting "Hodge" before operation, a suitable intra-uterine stem being also inserted in extreme and old-standing retroflexions. These act as splints and I think contribute to success; but I do not always use them, and never in cases of prolapse, where vaginal or perineal operations are performed at the same time.

I make an incision one or two inches in length, according to the stoutness of the patient, from the spine of the pubis, outwards and slightly upwards, and cut down again and again till the external oblique aponeurosis comes into view. I then find the external abdominal ring, scratch through the thin fascia over it, and seize the ligament with forceps, pulling it up gently until I get it between *my finger and thumb*. By the aid of this "*living forceps*" I coax it out, separating or cutting through any fibres that do not belong to it, and

when it begins to "come," I pull vigorously upon it until it will run no further. I then slacken it a little, and put two fine silkworm gut sutures through the ligament and both pillars of the ring. These sutures are to remain buried. The portion of the ligament that looks frayed by pulling out is cut off, and the rest packed and stitched in the wound, which is closed by catgut sutures. Except in very stout subjects, no drainage is now used.

The opposite side is operated on in the same way, and an antiseptic dressing, of protective, double-cyanide gauze, wood wool, or salicylic wool, applied. In three weeks the stem is removed, and the patient allowed up. The "Hodge" is removed in another week.

In upwards of 90 per cent., the maintenance of the uterus in the proper position is secured by the operation, and the patient is rendered comfortable. In a few of the unsuccessful 10 per cent., the displacement recurs through adhesions that only *seemed* to give way at the time of operation, through sloughing of the stitched ends of the ligaments, and consequent failure of union, or through tumours too small to be found at the time of operation, but which afterwards dragged the uterus backwards as they grew larger. In others of the 10 per cent., the pelvic symptoms were not relieved by the operation, through these being due to serious disease of the tubes, ovaries, or other organs; but even in a certain proportion of these the symptoms yielded to time.

A great deal depends on accurate diagnosis of the cases likely to be benefited by the operation. The best cases are those where the disease is evidently mechanical in its origin, the worst where it is neurotic. By its early performance in some cases of backward displacement, I have seen early disease of the tubes and ovaries disappear.

Some months are generally necessary to obtain the best results. A certain amount of discomfort is experienced after the operation, until the uterus swings easily in its natural, but for a time unaccustomed, place.

I wish Prof. Chalot all success, and in some cases I think it is advisable to follow out his advice. As far as the ordinary cases are concerned, it does not seem to one to carry off the palm for simplicity and safety; but my opinion is, no doubt, unduly prejudiced in favour of another method.

VAGINA (Diseases of).

Vaginismus.—According to Dr. Strong,[1] the best treatment for this condition, when accompanied by reflex pelvic pain, is to completely remove the hymen and the superficial structures between it and the

fourchette. A glass tube is then introduced and worn—at first continuously, and later on only at night. The tube has a groove on its upper surface to guard the urethra from compression, and it must be sufficiently short to avoid contact with the uterus.

Vaginitis.—Menière [2] uses the following injection :—

℞ Glycerine			
Tar Water āā	ʒijss	Alum	gr. 6
Sulphate of Zinc	gr. 12	Chlorate of Soda	gr. 4
Sulphate of Copper	gr. 3	Essence of Wintergreen	gtt. 20

Després [3] employs injections of pure **Petroleum**, and claims to cure recent cases of vaginitis in two or three days by using a daily injection of 100 to 150 grammes.

REFERENCES.—[1]Strong, "Boston Med. and Surg. Journ.," Sept., 24, 1892 ; [2] "Le Progrès Méd.," June 28, 1893 ; "Journal de Paris ;" [3] Després "Gaz. des. Hôp." June 15, 1893.

VAGINITIS (Of Children).

Synopsis.—(Vol. 1893, p. 546.) Comby advises lotions of **Bichloride of Mercury** 1 in 2000, and of Boric Acid 4 per cent., used three or four times a day, and followed by applications of powdered **Salol. Sulphur Baths** are given three or four times weekly. **Suppositories** may be introduced into the vagina containing 1½ grs. **Salol** to 15 grs. **Cocoa Butter**, and used two or three times a day.

VAGINODYNIA (as a Distinct Affection).

E. F. Frost, M.D., Philadelphia.

That vaginodynia exists as a distinct affection there can be no doubt, for it was quite awhile ago recognized and described as such by several writers, chief among whom was Sir James Y. Simpson. Recently, in an article entitled Vaginodynia, published in the "New York Medical Record," of April 8, 1893, I have given a description of the clinical history, diagnosis, and treatment of vaginodynia, the result of personal investigation in a number of cases, from which I think abundant evidence will prove to be at hand if the attention of clinicians is directed to such investigation. I believe instead of its being a rare affection, that, on the contrary, vaginodynia is exceedingly common, but unrecognized through faulty, or rather incomplete investigation. In fact, in my experience, most of the severe uterine pains, so called—but rather pelvic—either at the menstrual period or at other times which have been of sudden onset and of a spasmodic nature, whatever the cause, have been proved on investigation to be genuine cases of vaginodynia. So true has this been, that now when a case presents itself as complaining of pelvic pain, either in the region of the rectum, vagina, or the ovaries of either side, whatever the direction of that pain, I at once suspect the

existence of vaginodynia, and my suspicions upon examination have proved, in every case so far, well founded.

Recognition.—Vaginodynia has as yet received but slight recognition as a separate affection; and, indeed, its existence has been denied, the conclusion being that vaginismus is inclusive of all the painful spasms of the vaginal wall. That but little recognition has been given to vaginodynia is further evidenced by the meagre literature on the subject. Again, I have personally asked many of my brother physicians, learned and observant practitioners, as to their experience with the affection, and have invariably received the reply that they have had no experience with such a condition.

Prevalence.—Care in diagnosis, differentiating the various spasmodic and neuralgic affections of the pelvic organs, will make it apparent that vaginodynia is of widespread, and of very frequent, occurrence. Care in diagnosis means that thorough physical examination be made, the essential point in the examination being, that it be made during the paroxysm, and not after its cessation, for otherwise the condition of spasm will be absent, and all that will appear may be possibly an unusually sensitive state of the cervix uteri, when erroneous conclusions may be drawn. If, however, the physical examination be made during the paroxysm, in spite of the resistance and pain due to the attempt, there will be found this state of things, namely, the whole perineum in a state of tonic spasm, the recti abdominalis and other abdominal wall muscles also in a state of contraction, the cervix uteri forced downward so as to be clasped within the embrace of the perineal muscles, dorso-caudal tissues and the tissues surrounding the ventro-cephaloid vaginal wall, and the uterus itself hard in its own contraction and very sensitive to touch, especially about the cervix. In making the examination, however, I found that from the moment of entering the introitus vaginæ that pressing backward the perineum so as to relieve the pressure on the dorsal cervical wall, relieved not only the difficulty in introducing the fingers further and further into the vagina, but also, at once the pain. Therefore, this fact, when obtaining in an examination during the paroxysm, will leave no doubt as to the immediate diagnosis. This fact in examination will do more; it will show, to the surprise of many, that vaginodynia is exceedingly prevalent.

Frequency in the same Subject.—There are many persons who suffer from vaginodynia at each menstrual period, the vaginodynia being the essential factor in the dysmenorrhœa. Again, in those who suffer from this spasm at other times, my experience is that the patient

has been subject to a long series of attacks covering years, for which several surgical operations may have failed to have given relief, and that the expectancy was that the condition would recur at any time in the future. It has also been my experience that even with the proper treatment attacks are very apt to recur, perhaps several times and at irregular intervals, yet with final freedom from attack. The age at which the first attack occurs is more often at puberty. One patient had been the mother of partially grown children at the time of her first attack.

Etiology.—With or without local inflammations, ulcerations, or other abnormal conditions of the pelvic organs, I have known vaginodynia in its severest paroxysms to occur. Therefore, local conditions cannot stand as adequate causes of the spasm. Experience, again, has shown this spasm to obtain, I believe in every case, in the hysterical state, however mild that state may be, and I firmly believe that the one adequate cause is to be found in the emotions acting as a reflex to produce the perineal spasm. I have known it to occur from fright, from worry, from vexation, from excessive hilarity by re-action, from the re-action after coition, and from the pure desire for sympathy; also when, although the motive could not be determined, yet the emotional state was apparent. I have never known it to occur for some time after child-birth at full term.

Prognosis.—Untreated, vaginodynia, though of no immediate danger to the patient, will be quite sure to recur. Properly treated, however, the attacks will become more infrequent, and at length cease.

TREATMENT.—During the paroxysm the treatment is to mechanically pull backward the whole perineum, stretching it to its utmost, even bending back the coccyx, and maintaining this stretched position for from ten to twenty minutes. This I have found to be preferably done by the fore and middle fingers of the right hand, the thumb resting as a fulcrum against the sacrum. Although this is very tiresome to the attendant, and painful, from the stretching, to the patient, still when thoroughly done, if the perineum be allowed to relax there will be a complete cessation of all distress. I have noticed while stretching the attempt of the perineum to rebel, by making unusually severe contractions against my fingers; but with persistence the attempts cease in a short time. The rationale is, of course, to tire out the contracting muscles.

Between the paroxysms also it will pay well to stretch the perineum, both as a prophylactic and to overcome a certain state of vigilance on the part of the perineum, ready for an attack at the

slightest provocation, which leaves a feeling of uneasiness in the pelvic organs and of dread in the patient's mind.

Of the remedies between attacks I have found **Belladonna, Viburnum, Valerian,** and **Conium** to be of most worth.

In the virgin, if the ordinary remedies and psychical influence were of no avail, I should not hesitate to rupture the hymen and proceed with the dilatation.

Treatment in Complications.—Whatever the complication may have been so far as I have met, I have nevertheless resorted to the stretching, and with the happy result of finding several cases of leucorrhœa far more tractable and amenable to treatment. In one case, where there was at the introitus considerable cicatricial tissue from some previous treatment, I was forced to avoid stretching the constrictor vaginæ very much, but was enabled, however, with care to press back the coccyx and the coccygeus muscle with the surrounding tissues with marked relief, but requiring a greater number of attempts.

Presence in Dysmenorrhœa.—I have found that at the menstrual period when all the emotional nature is awakened, that in nearly all cases the dysmenorrhœa was due entirely to the vaginodynia, and I believe that in many cases the pain or heaviness of the uterine congestion is but slight as compared with the vaginodynia. I also believe, from my experience as to the conclusions of others, that many of the neuralgic affections ascribed to the uterus and ovaries are no more nor less than vaginodynia. I would not have it thought that I deny the existence of the different neuralgias and inflammatory conditions, or that I ride a hobby to the extent of seeing perineal spasm in everything; all that I would say is, that my experience, through success in giving relief by means of the stretching in cases pronounced to be other than vaginodynia, warrants me in doubting the greater prevalence of the neuralgic affections as distinguishable from vaginodynia.

Sectional Spasm of the Perineum.—In several cases of vaginodynia I have observed what may be called a sectional spasm of the perineum: a spasm that seemed to be confined to the area above the ventro-caudal margins of the coccygeus muscles, so that the whole object, in order to give relief, is to press backwards against the area of these muscles and the surface of the levator ani muscle; or with one finger each side of the coccyx, press firmly backwards. While pressing against the coccygeus, often, in spite of myself, the fingers would slide over the ventro-caudal edge of these muscles and forcible contractions at once take place, when it would be necessary to renew the position.

I am inclined to think that this sectional spasm is what Sir James Y. Simpson meant by his description of vaginodynia.

Anatomical Structures to be considered in the Treatment.—I have found that while introducing the finger into the vagina, it is quite essential to avoid the ventro-cephaloid wall of the vagina by continually pressing in the dorso-caudal direction; for pressure, even though slight, in the former direction heightens the pain. It is also necessary to avoid the cervix uteri for the same reason. Having retracted the dorso-caudal vaginal wall, and while holding it retracted, I found it possible to raise one finger to examine the cervix uteri, which was often quite rigid, resistent, and exceedingly sensitive. Pressure over the rectum during retraction I found to give, sometimes, a good deal of uneasiness from a feeling of an intense desire to defæcate, so, therefore, it became important to avoid the rectum as far as possible, but not giving up the retraction even if the desire to defæcate seemed very urgent. Of course, removal of the fingers caused this desire to cease. When the rectum was loaded with scybalous masses the vaginodynia seemed more severe, but upon retraction I have not, in these cases, noticed the desire to defæcate. In one case, where an ovary—the left—had become displaced behind the uterus, it was found to be exceedingly sensitive to the least manipulation, and it was only after long retraction of the perineum and gradual movement of the uterus bodily until quite moveable that the distress was relieved entirely: the moving about of the uterus serving to remove the ovary from its displaced position. In all cases, of late, it has been my practice to move the uterus about carefully and gently at first, increasing the movements until it has become perfectly mobile, thus affording a suitable adjustment of the pelvic viscera to assure relaxation. The bladder, in most cases, has not given me any trouble; but I have had cases where the pressure of the cervix uteri against the cystic cervix has led to incontinence of urine from over-distension, which became completely relieved of its own accord by retraction of the perineum. I found **Viburnum, Valerian** and **Belladonna** to do some good towards relief in these cases before being allowed to make an examination, but **Morphine** proved the most efficient.

Surgical Interference.—Thus far, it has not been necessary to resort to surgical means to relieve the vaginodynia, as several stretchings have been sufficient to completely tire out the muscles involved; but in an intractable case, should I meet one, or where non-elastic tissue from old cicatrices is met, preventing sufficient retraction, I should not hesitate to divide or tear the same.

Use of Instruments.—For the purpose of retraction, no bi-valve nor multi-valve speculum, nor dilator is of use, because of the necessity of avoiding the ventro-cephaloid vaginal wall. The Sims' speculum, also, is apt to press against the cervi uteri if used. Therefore it is, that I have found the fingers the most efficient, especially when we realize the difficulty of retaining the instrument during the retraction.

Power of Mental Suggestion in Treatment.—This affection being largely emotional in its origin, the power of mental suggestion may have, possibly, considerable to do with the non-recurrence of attack after several stretchings; but it certainly has nothing to do with the immediate relief of the spasm at the time of the attack.

Designation of the Affection.—It seems to me that the state being one of a tonic spasm of the whole perineum, with the prominent attending symptom of pain, it would be far more preferable to designate the affection rather by the term perineal spasm, than by the term vaginodynia; for the former is the more inclusive.

VARICOCELE.

Dr. P. Gilis gives tablespoonful doses of the following, the whole being used in the course of twenty-four hours if the varicocele is very painful:—

℞ Tinct. Hamamelis Virg. gtt. xx | Aq. dest. ℥vj
M.

The scrotum should be bathed with cold water night and morning, and a suspensory bandage worn.

REFERENCE.—"Nouveau Montpellier Méd.," Mar. 11, 1893.

VEINS (Varicose).

Sweetman calls attention to walking heavily on the heels as an important factor in dilating the veins, on account of the abrupt shock produced. Strapping is useful where varicocity is confined to a single vein or circumscribed bunch. The strips are applied at right angles to the greater diameter of the bunch, and are removed at night.

Massage is particularly useful where œdema exists, and severe pain prevents exercise being taken. Subcutaneous ligature and excision are also considered.

REFERENCE.—Sweetman, "Therap. Gaz.," May, 1893.

VERRUCA. *T. Colcott Fox, M.B.*

According to Kaposi a solitary papilloma of the skin is best treated surgically, *e.g.*, by the curette, where a scar is not of much consequence. But in cases of multiple warts of the face, less permanent damage to the skin is done by the application of fuming **Nitric Acid** or

tincture of **Thuja Occidentalis.** He also recommends the application of the following paste :—

℞ Sublimed Sulphur 5v | Glycerin 3ij.
Pure Concentr. Acetic Acid 5ijss |

To be applied to the warts for several successive nights with a brush, or spread over small pieces of linen, and washed off the next morning. The warts shrivel up, become blue, and ultimately drop off spontaneously. Another simple plan Kaposi mentions in the treatment of facial warts consists in covering the affected parts with pieces of flannel smeared in soft soap, and left in position for twenty-four to forty-eight hours, until the skin becomes red and shrivels up. After removal of the dressing the warts must not be cleansed in any way. They drop off in about a week.

Exuberant vegetations should be treated with **Resorcin** or **Salicylic Acid** either in the form of a dusting powder or 10 to 20 per cent. plaster, but it must be borne in mind resorcin in prolonged contact acts as a caustic, and therefore the action of resorcin plaster must be carefully watched and the surrounding skin protected.

Gemy, of Algiers, in the case of all vegetations of the penis, anal regions, etc., not large enough to be dealt with surgically, prefers the application of a mixture of equal parts of powdered **Savin** and **Salicylic Acid** to the classical mixture of powdered savin and dried alum—to be repeated twice or thrice daily. Before each application the vegetations are to be thoroughly cleansed of all *débris* by 1 in 1000 corrosive sublimate solution, and afterwards dried by absorbent wool.

Morison, of Baltimore, prescribes the following application once daily, the upper crust of the previous application being removed before a fresh one is made. Four such applications generally soften the wart to such a degree that gentle traction removes it painlessly, the further dressing being any simple ointment :—

℞ Hydrarg. Bichlor. gr. v | Collodion 3j
Acid Salicylici 5j |

Smossi recommends the internal administration of **Tincture of Iodine** in the treatment of warts. To an adult he gives 10 drops twice daily.

Mansel Sympson points out the curious way in which warts come and go, but is satisfied that small doses (mj—ij—iij) of **Liq. Arsenicalis** or one of the other preparations, given twice daily, have a rapid action in stimulating the disappearance of the growths.

Derville cured an extensive case of *vegetations* of the anal and

vulvar regions by painting on pure **Carbolic Acid** every fourth or eighth day. The surrounding skin must be protected by vaseline.

REFERENCES.—Kaposi, quoted in "Semaine Méd.," 1893; Gemy, quoted in "Semaine Méd.," 1893; Morison, "Amer. Derm. Assoc.," 1893; Sympson, "Quarterly (Sheffield) Med. Journ.," 1893; Derville, "Journ. de Méd. et de Chir. Pract.," p. 64.

VERTIGO.

Dr. Church points out that vertigo is the earliest symptom of the pre-atheromatous arterial fibrosis, which ends in cerebral hæmorrhage or dementia. The other symptoms are a well-defined tortuous temporal artery, slow or arhythmic pulse, clanging second sound of the heart, arcus senilis well marked, scanty urine, with perhaps a trace of albumen. The vertigo is brought on by moderate exertion, a higher temperature than usual, or rising from the recumbent position. **Potassium Iodide,** 30 to 90 grains daily, long continued, is the treatment advised.

REFERENCE.—"Practitioner," Dec., 1892.

Synopsis.—(Vol. 1893, p. 550.) In gastric forms attend to diet, give tonics if required; in some cases counter-irritants may assist. Nervous vertigo may be due to anxiety, sexual excesses, tobacco and tea or coffee, which must be removed as far as possible, and hot water substituted as a beverage, and regular sleep secured. Epileptic vertigo requires regulation of habits, the use of blood and nerve tonics, *e.g.*, **Oxide of Zinc, Carbonate of Iron, Rhubarb,** 2 grs. of each for an adult, three times a day. For migrainous vertigo a regulated diet, tonics, and occasional dose of **Magnesia,** and correction of optical defects are required. For gouty vertigo, **Colchicum, Guaiacum,** and **Iodide of Potassium,** are recommended, together with moderation in eating and drinking. Brain and spinal vertigo, if organic, requires regulated diet, and full doses of **Iodide of Potassium, Wet Cups** to neck, **Blisters** behind ears, and later to back of neck, **Mercury,** $\frac{1}{12}$ gr. of bichloride in solution, with 8 grs. **Iodide of Potassium** often acts well. For *ocular vertigo,* **Cups** to back of neck, **Blisters** behind ears and to temple, **Electricity,** and perhaps **Glasses,** may be required. *Aural vertigo,* **Cups** or **Blisters** to back of neck, **Leeches** or **Blisters** behind ears and to temples, removal of wax, use of Eustachian catheter, and perhaps dropping into ear a solution of **Boric Acid,** 20 grs. to the ounce of equal parts Glycerine and Water, if catarrh of meatus exist; **Electricity** for paralysis of stapedius. For primary labyrinthine disease the above counter-irritants may be necessary. **Ammoniated Citrate of Bismuth** in 1 or 2 gr. doses three times a day to allay gastric disturbance, and **Nux Vomica Tincture** 2 drop doses may be required. In anæmic, congestive, or malarial cases, **Cinchonidine** 2 or 3 grs. (not more) may be given every six hours, alternating with the Bismuth and Nux Vomica, and, possibly, **Potassium Bromide** at night. The feet should be put in warm water daily, and **Magnesia** given each morning, and, if tongue is coated, an improved **Cathartic** or **Leptandrin Pill** at night until it cleans.

VITREOUS (Opacities of).

Synopsis.—(Vol. 1893, p. 552.) Spalding and Shweintz recommend 10 minims liquid extract of **Jaborandi** three times a day, avoiding physiological effect.

VOICE.

Bleyer gives some useful hints to voice users. Drinking water *not hotter than* 120° *F.* an hour or two before every meal and at other times is recommended, as also is the use of Carlsbad Sprudel salt; avoidance of irritating foods and drinks, including ice water and alcohol, also of tobacco, is insisted on. A proper amount of sleep and exercise is essential; avoidance of too much vocal work, of hot rooms and narcotics, is enjoined. A nasal douche of warm water, with lime water and peroxide of hydrogen in it, cleaning the teeth, and using an antiseptic gargle after every meal are highly recommended.

REFERENCE.—"Times and Register"; "Brit. Journ. of Laryngol.," June, 1893.

VOMITING.

Coronedi[1] prescribes **Strontium Bromide,** about 30 grains daily, for the vomiting of pregnancy, hysteria, acute gastric catarrh, with hysteria and gastric dilatation.

Dr. Humphreys[2] finds **Nitroglycerine** almost a specific for the vomiting accompanying all forms of gastric catarrh, pregnancy, and some cerebral cases. In peritonitis only did the drug aggravate the symptom. In vomiting of phthisis and influenza, its remedial power seemed to be inferior to **Atropine.**

REFERENCES.—[1] "Practitioner," July, 1892; [2] "Brit. Med. Journ.," April 1, 1893.

Synopsis.—(Vol. 1893, p. 552.) Albrieviez recommends **Hydrochloric Acid,** in small and frequent doses, well diluted for various kinds of vomiting, *e.g.*, that of pregnancy, in cholera nostras, vomiting due to acute dyspepsia, and in the course of influenza, scarlet fever, etc.

WHITLOW.

Professor Hare[1] says that the best method of aborting felons is to apply a poultice made of **Bread Crumbs** and **Lead Water.**

REFERENCE—[1] Hare, "Therapeutics."

WORMS.

Dr. Sansom sums up his treatment of thread worms in children as follows: Frequent aperient action should be kept up for several weeks by **Castor Oil, Rhubarb, Sulphate of Magnesia,** etc. The routine use of injections is a mistake, but they are indicated if the presence of the parasites in the rectum is evident by local symptoms In rebellious

cases, the whole of the large intestine should be irrigated by Hegar's tunnel system apparatus. Nothing is better than pure water, warm or cold, in which the worms swell up and burst. Soap enemata are sometimes useful. Enemata may be given once a week for a time after symptoms disappear. Coincidently with, or shortly after, commencing treatment, tonics—*e.g.*, **Iron,** with **Strychnine** or **Nux Vomica** —should be prescribed. Preventive treatment includes scrupulous attention to diet; the boiling of all milk and drinking water; the careful cleansing of all articles of food, and thorough cooking of meat. Dr. Sansom prefers the use of white sugar in preference to brown, as he considers the latter may often act as a vehicle for ova. The nails are to be kept short, and frequently brushed during the day with tar soap water. Frequent washing of the body with tar or carbolic acid soap is advised.

REFERENCES.—"Med. Record," Aug. 19, 1893; "Clinical Journ."

Part III.—Miscellaneous.

Sanitary Science, 1893.

By JOSEPH PRIESTLEY, B.A., M.D., D.P.H.,
Medical Officer of Health, Leicester.

I.—LEGISLATIVE SANITATION.

Although many important measures have been brought forward during 1893, but few have become law, and of these we will give a short account.

Cholera Hospitals (Ireland) Act, 1893 (56 *Vict.*, *c.* 13), is an Act to enable Sanitary Authorities in Ireland, to take possession of land within, or contiguous to, that Sanitary district for the erection of temporary cholera hospitals. No site is to be taken which is within three hundred yards of a dwelling house, or which has any building, or offices, thereon, or which is enclosed, or used, as a garden, pleasure, or recreation ground, or which forms part of any park, or of any enclosed demesne land, without the consent of the occupier of such house or land; no site is to be within three hundred yards of any church, chapel, police barracks, school-house, factory, workshop, or other building, where any trade or mercantile operation is being carried on. For such a site not more than two statute acres are to be taken. This Act refers to Ireland only.

Railway Regulation Act, 1893 (56 *and* 57 *Vict.*, *c.* 29), is an Act to amend the Law with respect to the hours of labour of Railway Servants (except those wholly employed either in clerical work or in the Company's Workshops).

Rivers Pollution Prevention Act, 1893 (56 *and* 57 *Vict.*, *c.* 31), is an Act to explain the Rivers Pollution Prevention Act, 1878, and to be construed as one with it. For the purposes of section 3 of this latter Act, where any sewage matter falls or flows or is carried into any stream after passing through or along a channel which is vested in a Sanitary Authority, the Sanitary Authority shall be deemed to knowingly permit the sewage matter so to fall, flow, or be carried.

Housing of the Working Classes Act, 1893 (56 *and* 57 *Vict.*, *c.* 33), is an Act to remove certain doubts as to the application of Part iii. of the Housing of the Working Classes Act, 1890, to certain authorities in Ireland.

Contagious Diseases (Animals) Act, 1893 (56 *and* 57 *Vict.*, *c.* 43),

is an Act to confer further powers under the Contagious Diseases (Animals) Acts, 1878 and 1892, with respect of swine fever, *i.e.*, the application to swine fever of certain provisions relating to pleuropneumonia, *e.g.*, compensation, etc.

Public Health (*London*) *Act*, 1891, *Amendment Act* 1893 (56 *and* 57 *Vict.*, *c.* 47), is an Act to amend the Public Health (London) Act, 1891, with respect to the Removal of Refuse, enabling London Sanitary Authorities to borrow money for that purpose as hitherto allowed by sections 183-191 of the Metropolis Management Act 1855.

Metropolis Management (*Plumstead and Hackney*) *Act*, 1893 (56 *and* 57 *Vict.*, *c.* 55) is an Act to amend the Metropolis Management Acts, and to give further powers to Plumstead and Hackney in the management of their own local affairs.

Shop Hours Act, 1893 (56 *and* 57 *Vict.*, *c.* 67), is an Act to amend the Shop Hours Act, 1892, with which it is to be read. It enacts that any salaries payable or other expenses incurred by the Council of a County or a Borough for the purposes of the 1892 Act, shall be defrayed in the former case out of the County Fund, and in the latter case out of the Borough Fund or Borough Rate.

The Isolation Hospitals Act (56 *and* 57 *Vict.*, *c.* 68), is an important Sanitary Measure, having for its object the enabling of County Councils to form (compulsorily or otherwise) hospital districts consisting of one or more Sanitary Districts, if satisfied that such a step is necessary. The County Councils may act either on the report of their own Medical Officer of Health, or on receipt of a petition from the local authority, or of a body of not less than twenty-five ratepayers. A clause deals with the training of nurses (Hospital or outside) by a Hospital Committee. The Act does not apply to Scotland, Ireland, or to the administrative County of London. County Boroughs and Boroughs containing a population of 10,000 persons or less (under certain conditions) are also exempt.

The Plumbers Registration Bill deserves mention, though unfortunately it has not become law this last year, as was expected. Its object is to protect the public against the serious diseases and dangers to health arising from defective Plumbing Work, and to enable the public to distinguish between qualified and unqualified plumbers. The Bill passed its second reading on February 17th, 1893, and was referred to a Standing Committee (Grand Committee on Trade), on July 7th, with the unfortunate result that the Bill was thrown out for the session. Sanitarily considered this Bill is a most important one, and strikes at an evil that is widespread, viz: the dangers to health dependant upon defective Plumbing Work.

II.—PRACTICAL SANITATION.

With cholera, smallpox, and scarlet fever in our midst, the subject of disinfection has again come to the front, and several alterations and additions, more or less valuable, have been suggested. Fumigation with the fumes of burning sulphur is still a favourite method, depending for its disinfecting powers upon the SO_2 that is evolved. This method has been both improved and simplified lately by Messrs. Boake, Roberts & Co., of Stratford, London, who have succeeded in condensing purified sulphurous acid gas into liquid under pressure, and storing it for use in hermetically sealed tins containing 12 and 20 ounces each, ready for immediate use, and sufficient for the thorough disinfection of 500 and 1000 cubic feet of space respectively. The tins are so arranged that the disinfector has merely to cut off the projecting soft lead tube, and the gas at once hisses out. When sulphur is burnt, part is volatilised unburnt, whilst about 10 per cent. is converted into SO_3 (sulphuric acid), the fumes of which corrode all metal work and damage fabrics and furniture ; there is, further, risk of fire, inconvenience, and waste of time and material. All these difficulties have been overcome by the simple expedient of condensing SO_2 into a liquid, either by means of great cold, or by subjecting it to a pressure of about 45 pounds to the square inch, *i.e.*, 3 atmospheres. The SO_2 is first purified (by freeing it of sulphur*ic* acid and volatilised sulphur), and then liquefied. The room to be disinfected is sealed up in the usual way, and this new method for sulphur disinfection will be found safe, effective and economical. The liquefied gas can be also purchased in glass syphons, iron bottles, or steel and copper drums, containing 3-lbs., 10-lbs., and 2-cwts., respectively.

Mr. Kingzett, of the Sanitas Company, Bethnal Green, London, has also patented some sulphur fumigating candles, which are said to give off, when burnt, much purer sulphurous acid gas, because there is associated with the sulphur a powerful oxidising agent, which promotes and ensures the more perfect combustion of the sulphur, and so prevents the formation of volatilised sulphur or sulphur*ic* acid gas. These candles are sold in two forms, the larger size being provided with a water jacket, which not only ensures safety from fire but in which, by means of the heat that is generated by the burning sulphur, water vapour is given off in association with the SO_2, a combination that greatly enhances the disinfecting powers, because the water vapour is condensed on the articles requiring disinfection, and the SO_2 being highly soluble in water thereby comes into material contact with them. The candles take fire immediately that a light is

applied to the cone, and combustion proceeds until the whole of the sulphur is consumed, taking from two to three hours.

The "Amines" Syndicate, of 101, Leadenhall Street, London, have introduced a new disinfectant called "Aminol," which is a perfect deodoriser and harmless in action, does not stain, and contains as its chief ingredient trimethylamine. It is sold in two forms—solution D for general disinfecting purposes, and solution R for use in medicine and surgery.

"Izal" is quite a new disinfectant during 1893, and judging by Dr. Klein's bacteriological report must be one of the best (if not the best) disinfectants we possess. Izal was discovered by Mr. J. H. Worrall, F.I.C., during a research into the nature and uses of a certain unknown oil derived from the Thorncliffe Patent Coke Oven, and is a body possessing evidently high antiseptic powers. It is, when refined, a clear, deep-reddish brown, liquid insoluble in, and of greater density than, water. It can, however, be so finely divided that its particles remain permanently suspended in water, forming a beautiful milk-white emulsion. It is, strange to say, reported to be non-poisonous to human beings, but deadly to germs.

The Eucalyptus Globulous Oil (Platypus Brand), of the Tasmanian Eucalyptus Oil Company, 138, Leadenhall Street, E.C., is a pleasant and efficient antiseptic lately introduced.

"Esset's Fluid" is a disinfectant brought out by Messrs. J. W. Drysdale & Co., of 8, Creechurch Lane, London, and is said to be non-poisonous, non-corrosive, perfectly soluble, and not to stain, although at the same time it is a powerful germicide and antiseptic. It emulsifies perfectly with water, forming a milky-white solution. It has been reported upon by Mr. Redwood and Mr. A. B. Griffiths, (both fellows of the Royal Society), and from experiments conducted by these two gentlemen it would appear that Esset's Fluid is a thorough germicide and antiseptic.

The Sanitary Wood Wool Company, of 26, Thavies Inn, Holborn, London, have recently brought out some antiseptic mattresses for use in cases of infectious diseases, especially cholera, typhoid, puerperal fever, etc. Owing to their cheapness they may advantageously be burnt after use. They are made the size of an ordinary hospital bed.

Before leaving the subject of the year's disinfectants, mention must be made of the "Newcastle Sterilizer," patented by Messrs. Goddard, Massey, and Warner, of Nottingham. It is an apparatus for the treatment of excrementitious matter produced from enteric diseases, *e.g.*, typhoid, cholera, etc. It depends for its action upon the principle, now universally acknowledged, that high pressure steam is the

best and safest disinfectant. Steam under high pressure from a boiler is driven into and mixed with the infected discharges in an air-tight and steam-tight vessel, the contents of which, after subjection to a high pressure and a high temperature, are ejected through a pipe into a tank where they come into contact with a large volume of cold water, and then, when cooled, pass on into the town sewers. The vessel is made large enough to hold about thirty gallons, and can be easily worked. The apparatus was designed in the first instance from information and some suggestions from Mr. W. G. Laws, C.E., and Dr. Armstrong, the City Engineer and Medical Officer of Health, Newcastle-on-Tyne; and is a modification of the system of sterilization by steam carried out in the Russian and Berlin Hospitals.

Messrs. Burnett and Groom, of 50, Queen's Road, Peckham, London, have invented an improved drain and soil pipe testing apparatus—the improvement consisting in the fact that in addition to large quantities of thick smoke, very powerful strong smelling materials are present, thus affording a double chance of any leakage in the drains being detected. When the smoke-producing material is ignited, the heat generated thereby volatilizes the powerful and pungent odours. The apparatus consists of three cases in one, the outer one containing the smoke-producing material, and the two inner cases, oil of peppermint, assafœtida, etc. A fuse communicates with the smoke-producing material.

Mr. F. E. Doughty, 20, Silchester Road, Notting Hill, London, has lately patented a drain tester (*Fig.* 58), consisting of a lantern, which is lighted by electricity, and is pushed up the drain as far as may be necessary for the purposes of making the inspection. The apparatus is provided with an automatic reflector, which makes the invention a useful one, even in the case of drains that are not straight.

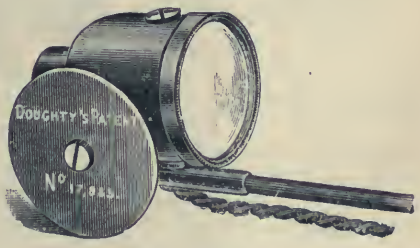


Fig. 58.

The effect of the introduction year by year of drain-testers is that drain pipes are being more attended to and more carefully laid. Thus in connection with drainage several patents have been introduced during 1893, and these we will notice now.

The "reliable" joint of Mr. Milton Syer, of 36, Rye Lane, Peckham,

London (*Figs.* 59, 60), is simple, durable, and effective. It is elastic and not liable to cause cracking; and is, further, very simple in construction, consisting of two iron rings, with an indiarubber ring placed, and screwed up, between them by means of two screw bolts. In this way a gas- and water-tight joint can be effected between a lead pipe and a stoneware or iron pipe as shown in the diagram. The "reliable" joint is easily fixed by first passing one of the iron rings on to the trap (whether an S or a P), then the indiarubber ring, and lastly the remaining iron ring over the lead soil-pipe, which is tafted so as to form a shoulder, and afterwards the bolts are screwed up tightly together.

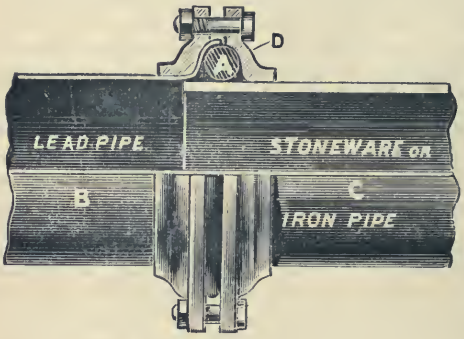


Fig. 59.

Mr. Milton Syer has lso brought out the "Sireen," 1893, consisting of a wash-down closet pan (in one piece), with metal arm and spreader, and a syphon cistern complete. The syphon cistern is constructed on an entirely new principle, being a combination of cistern and closet pan, with a metal arm and spreader for directing the force of water, so that the W.C. pan is perfectly cleansed at every flush, and the trap perfectly cleared. The force of water is directed where most required, no putty joints or rubber cones being used. Further, having no earthenware arm, or confined flushing rim, it is not liable to break by frost. It is a perfect water-waste-preventer because the syphon pipe is above the overflow, whilst the trap outlet has a flange fitted with bolts ready for the application of a "reliable" joint, as described before.

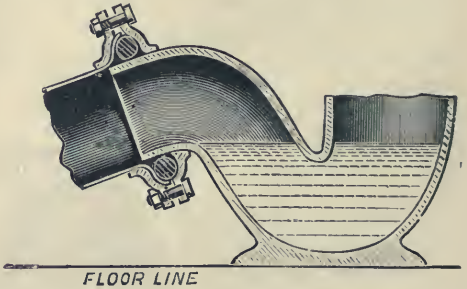


Fig. 60.

Mr. Cornelius Horton, of Newton Street, Birmingham, supplies a water-waste-preventing patent simplex automatic cottage water-closet, made of metal, and therefore unbreakable. There are no ball tap complications, lever, syphons, etc., to get out of order, or be tampered with by tenants and children ; whilst there is no danger of bursting flushing tanks or water pipes in winter, there being a constant flow of water running through a special patent feed tap and the service pipes, thus preventing freezing. The closet is easily fixed, and is, as its name implies, simplicity itself, but effective.

Mr. Daniel, of Hanley, has patented a most useful portable closet, (*Figs.* 61, 62), consisting of a receiver and an upper vessel with a

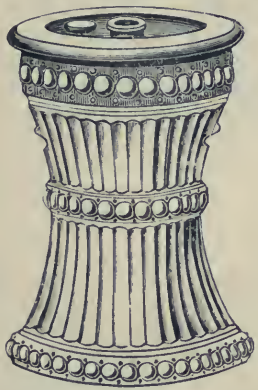


Fig. 61.

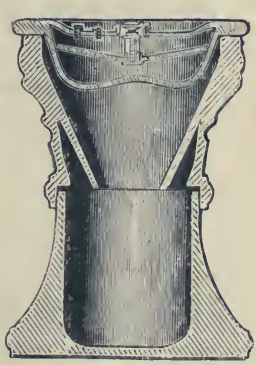


Fig. 62.

suitable cover, called the " Closetiere " cover, containing a supply chamber for disinfecting fluid, and a distributing chamber. The W.C. is made of strong earthenware.

The tendency of present day W.C. sanitation seems to be an endeavour to disinfect the closet each time it is used, and to accomplish this various methods have been devised during 1893. The simplest form of such disinfecting apparatus is Milton Syer's " Simplex," which is made of glass, and therefore non-corrosive, but can be used with any disinfectant. It is a simple strong glass bottle attached to the W.C. water flush pipe by a tube, through which a portion of the disinfectant is sucked whenever a flushing takes place. This bottle has a screw mouth, which allows it to be screwed up to the brass plate, and is easily detached for recharging. Further, it is readily seen when empty, and can be easily fixed to any existing W.C.

Mr. Moore, of High Street, Brentford, has also patented an improved Automatic Disinfector, to which he gives the name of "Sight Feed." It is on the principle of Syer, using any kind of disinfectant fluid, being fixed to the W.C. flush-pipe, acting automatically, being simple in action and easily fixed to any existing W.C. At each flushing of the W.C. there is a suction of a portion of the disinfectant fluid, which is regulated to drip into a glass cup or receiver.

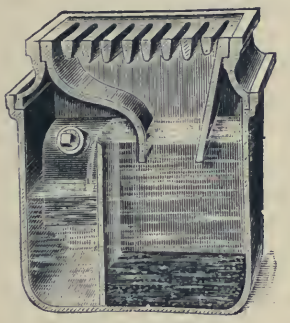
Mr. Rowan, of the well known Coal Tar Disinfectant Company, London, has also brought out a Patent Automatic Disinfector called "The Boon," the object of which is to give a regular supply and given quantity of Rowan's Fluid in its neat or undiluted state with each discharge of water from the flushing tank, dispensing with the use of powder, which is apt to clog the drains. It is easily fixed, being simply hooked into the inside of the flushing tank, and then by means of a float a small quantity of the Rowan disinfectant fluid is liberated every time that the flushing tank is filling with water. One gallon of Rowan's fluid used in the "Boon" is sufficient for about 1000 flushes, but it is stated by the patentee that such disinfecting fluid only is to be used. When there is no flushing tank, a modification of the "Boon" called the "Lever" is to be used, and is in principle practically the same, being worked by a lever and not by a float.

Finally, Mr. G. Taylor, of Liverpool, has also introduced an Automatic Disinfector, by means of which a small dose of disinfectant is automatically administered every time the flushing water is being used. There is no leakage of the fluid between the times of the using of the flushing water. The invention consists of an ordinary bottle of disinfecting fluid, fitted with a special discharging arrangement, and can be placed in any flushing tank. These disinfectors can be rented.

Whilst at this point it may be mentioned that the subject as to the proper quantity of water necessary to efficiently flush a W.C. has lately come up for discussion at a Special Committee appointed by the Council of the Sanitary Institute, with the result that they have reported that two gallons is not sufficient; and they have further recommended that the *minimum* quantity of flushing water should be fixed at three gallons, and the *maximum* at not less than three and a half gallons. The question is an important one sanitarily, and it is to be hoped that the Local Government Board will soon take the matter up. The Special Committee appointed made a series of experiments before arriving at their decisions.

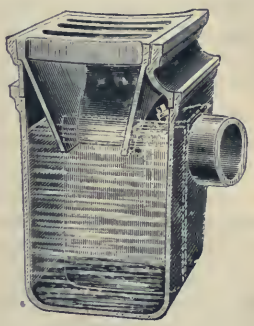
Several new gullies have been patented during the year. First, there is Crosta's patent, brought out by the Patent Gully Company,

Limited, of St. Peter's Church Walk, Nottingham (*Figs.* 63—67)—a surface water gully for roads, streets, yards, houses, etc. The gully is made of cast or wrought iron, and is formed with a partition across to a determined height, so as to form two chambers—one the gully proper, and another of much less capacity to form a second, from which the



FRONT ELEVATION SECTION.

Fig. 63.



END ELEVATION SECTION.

Fig. 64.

outlet proceeds by means of a dip pipe or tube of sufficient depth to form a trap. Through this dip pipe the flood-water is carried away to the drain, and this chamber is so arranged that the smallest amount of water therein forms an efficient seal, whilst the chamber itself, being efficiently protected, prevents any street refuse getting

Fig. 65.

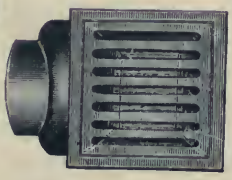


Fig. 66

Fig. 67.

in and evaporation taking place. Should, however, any solid matter in flood time be forced into this chamber, it is so constructed that it can easily be cleaned out by ordinary means. The plug hole on the

bend of the dip tube enables the earthenware connections with the draining to be readily cleaned without disturbing the streets, no syphon pipe being necessary. No corners are left in the gully proper, the bottom of the tank being so rounded that it can be thoroughly cleaned out with an ordinary scoop. The bell or bonnet attached to the grating is so formed that the surface of liquid in the tank exposed to the air is of the smallest possible description, being little more than the area of the outlet. This gully is made with or without a dirt pan. The house gully, as will be observed, is somewhat differently formed, namely, without a partition, and is self-flushing.

This house gully will be found efficacious. From the above description the advantages of this patent are apparent, but we would draw attention more especially to the fact that sewer gases are perfectly trapped, for even during long periods of drought it will be found that the second chambers still contain water and so prevent the escape of any sewer gas on to the street or road. The cost of these gullies is moderate, and, considering their many advantages, they ought to have a large sale. There is less labour in fixing them, and they can be used immediately, there being no necessity for waiting until the cement is set.

Messrs. G. & T. Couzens, of Cardiff, have also brought out an improved gully sink (*Figs.* 68, 69), the object of which is to prevent the back-flow of water and the escape of sewer gas. This is effected by

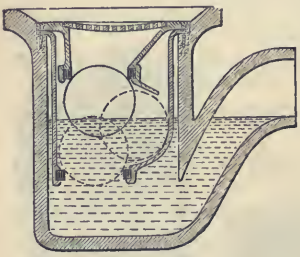


Fig. 68.

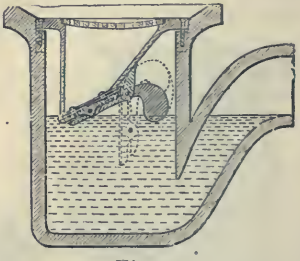


Fig. 69.

means of a copper floating ball which rises or sinks and then fits tightly against an indiarubber seating, held in position by the iron casting, which fits down inside the earthenware.

Mr. Ford, of 41, Susan's Road, Eastbourne, has patented an improvement in gullies, by which he effects the inspection and cleaning of the drain from the body of the trap, and the prevention of syphonage. It has a deep seal and a very small surface of water exposed, so that

there is little evaporation, whilst the trap itself is self-cleansing. It will be seen that all the advantages claimed for these two last gullies are claimed also for the first.

A simple and effective grease trap or gully, which may also be used to receive the discharge from rain water pipes, and bath or lavatory wastes, has been invented and patented by Mr. Le Rossignol (*Fig.* 70). The angle at which the inlet is constructed causes the water to rush over a lip or projection (where it has a fall of three inches to level of water in gully) with such an impetus that it ensures the effectual cleansing out of the gully, also breaking up the fat, if any, floating on the top of the water, and carrying it into the drain. The trapping lip being at the same angle as the inlet offers the minimum of resistance to the scouring out of the grease. The trap should not be used as a yard gully for surface water, but should preferably be fixed half an inch above the ground level to prevent the entrance of gravel or grit which might impede the scouring out of the grease. This grease gully is to be purchased from Messrs. Cliffe & Sons, Baltic Wharf, Waterloo Bridge, London.

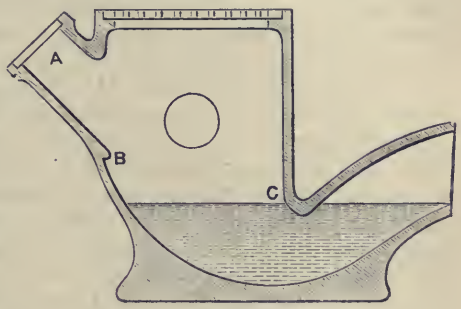


Fig. 70.

Another important sanitary patent has been introduced lately in the form of a distemper for walls and ceilings, called "Marbleine," which is warranted not to flake and not to absorb dirt or septic matters from the atmosphere. It is free from lime or animal matter; and being easily washable and varnishable will be of immense value from a sanitary point of view. Messrs. Fortescue & Co., of 63, Disraeli Road, Putney, are the patentees.

GENERAL REMARKS.

As was feared, Cholera broke through the strong barriers placed by the Local Government Board and the various Port and Riparian Sanitary Authorities, and appeared at different places (inland and otherwise). The cases have, however, been strictly sporadic, occurring in isolated districts and in very small numbers; and this sporadicity of the disease is no doubt due to the extraordinary measures that were

instantly taken by the Sanitary Authorities implicated. In the majority of the cases the diagnosis was confirmed, if not made, by an expert, who relied upon the presence of Koch's comma-bacilli with their peculiar cultures and chemical reactions. A bacteriological examination in a case of supposed cholera is not very difficult, and may be described as follows :—

(1) *The Microscopical Examination.*—Make a cover-glass preparation from the intestine, or dejecta, and colour with a solution of gentian violet or Ziehl's red (fuchsin), when it will be found that the peculiar curved bacilli are all lying in the same direction "like fish swimming in slowly flowing water."

(2) *The Peptone Cultivation.*—A solution of 1 per cent. peptone and 0·5 per cent. common salt at incubating temperatures will be found to be the best.

(3) *The Gelatine and Agar Plate Cultivations.*—The former at a temperature of 22°C, the latter at a temperature of 37°C.

(4) *The Cholera-red Reaction* (*Indol reaction*).—This red colour is produced when H_2SO_4 is added to cholera cultivations (pure), containing indol and nitrous acid.

It must, however, be remembered that cases have occurred during the last year which on bacteriological examination were diagnosed as "true Asiatic cholera," but which must, apparently, have arisen *de novo*—no previous ætiological relation with cholera Asiatica having been traced. The opposite condition of things has obtained also, viz., cases of cholera, definitely Asiatic as far as ætiology and clinical symptoms went, have failed to show, even to the practised eyes of expert bacteriologists, the well known bacilli of Koch. The relations (if any) between cholera Asiatica and cholera nostras are not yet known, but it is satisfactory to note that this subject is likely to be thoroughly investigated by the Local Government Board's Medical Department shortly.

Anticholeraic inoculations of Monsieur Haffkiné, of the Pasteur Institute, have been extensively tried in India. They are two chemical vaccinations, the system being got acclimatised first to the weak, and then to the strong or exalted, cholera poison or virus. The lymph is an emulsion, either of living cholera bacilli, or of cholera bacilli that have been killed by dilute carbolic acid ; and the operation of vaccination is performed with a hypodermic syringe, which is inserted only under the skin, and not into the muscles, of the flank half-way between the crest of the ileum and the lowest rib. Three to five days are allowed between the two inoculations.

Haffkiné's method has been severely criticised by Dr. Klein, who

regards the temporary immunity produced as not necessarily against cholera but against one of the effects of an intraperitoneal inoculation with comma bacilli, an effect producible by other bacilli in the same way.

Whilst on the subject of cholera, mention may be made of Herr Sawtschenko and his experiments with flies and cholera germs. He fed flies on cholera bacilli and found the bacilli in the intestines twenty-four hours afterwards. So too with flies that he fed on excreta and intestinal evacuations of cholera cases. From these facts, he draws the conclusion that cholera *may* be spread through the medium of flies—and this would apply to other diseases of an infectious character, *e.g.*, smallpox especially.

Much has been said during the year about the New Electrical Sanitation, *i.e.*, the method of Monsieur Hermite, who applies electricity to the purifying of sewage. An electric current acting on a solution of $MgCl_2$, or (what is better) sea-water containing $MgCl_2$, decomposes the salt, forming a liquid disinfectant of great power, an oxygenated compound of chlorine. This liquid is practically odourless, perfectly inoffensive, and leaves no residuum when used for flushing purposes. So too, sewage, when treated with this liquid, becomes an odourless liquid, incapable of fermentation and containing only a few phosphates, ammonia salts, etc. Anaërobic and aërobic organisms are both destroyed, the former by the oxygen, and the latter by the corrosive action of the gas, given off. NaCl in the seawater serves as a conductor for the electricity. The process has been successfully tried in Paris and at Havre, and is to be tried at Hastings during the present year.

The subject of dangerous industries has been brought prominently forward lately, showing the waste of life going on in certain of them. Thus, women (especially young women) are prone to plumbism in the making of white lead, so much so that it has been suggested to prohibit young female labour in all lead works ; whilst it has also been suggested to substitute white sulphate for carbonate, and to use machinery in place of human labour. So too the alkali workers have a very high rate of mortality, and special precautionary measures have been suggested during the last year on their behalf.

Again, much has been done during the past year to improve the condition of workers in workshops and factories. The order of the Home Secretary, under Section 27 of the Factory and Workshop Acts, 1891, has been issued, and will be of great use in securing a sanitary condition, and non over-crowding, in such trades as dress-making, tailoring, boot-making, furniture-making, upholstery work, the manufactures of electro-plate and files. Lists of out-workers in

these various trades are required to be made, so that sanitary officials may visit the places (rooms, etc.), where the work is carried on. Female factory inspectors have also been appointed by the Government. The subject of the employment of female sanitary inspectors by large towns—inspectors able to speak to mothers and give them advice as to the proper rearing up of children, etc.—has come to the front during the year, and several large towns (*e.g.*, Glasgow, Manchester, Salford, and other places), have led the way by appointing one or two.

Smallpox has made steady progress throughout the country during the last year, and evidence is continually coming to hand showing the value of prompt notification, isolation, disinfection, vaccination and re-vaccination, in battling with this dreadful disease. The Royal Commission on vaccination have sat through the year and have at length concluded their taking of evidence.

One point has been emphasized during the year, and that is the danger of smallpox hospitals to surrounding inhabitants, pointing to the importance of smallpox being treated separately and well away from habitations. In this connection an interesting and important law-suit has been decided during the year. The Local Board of Health, for Withington (a suburb of Manchester), applied before Mr. Justice Chitty, in the Chancery Division of the High Court of Justice for an injunction to restrain the Corporation of Manchester from establishing any hospital for the treatment of smallpox, or other infectious diseases, within their (the plaintiffs) district. Mr. Justice Chitty refused to grant the injunction, and this judgment was appealed against, the case being again heard before Lords Justices Lindley, Lopes, and Kay, with the result that the appeal was dismissed with costs. The importance of this action cannot be overestimated, when we remember that the Isolation Hospitals Bill *may*, in its practical workings, give rise to considerable friction between neighbouring authorities in respect of the exact position to be used for an Infectious Diseases Hospital.

The part that tramps play in the propagation of smallpox is now generally admitted, and the whole subject is considered so important that it has been suggested in a paper read at the British Medical Association Meeting, 1893, that the State should step in, and remedy, as far as possible, the existing evil. But how? An easy and efficient way in the case of smallpox would be the compulsory re-vaccination every few years of all tramps applying for lodgings at Workhouses, or being brought to the Prisons. In vagrant wards, all clothing, bedding, etc., used by tramps should, of course, be thoroughly disinfected and washed before being re-distributed to others. Detention, quaran-

tining, and a careful medical inspection (with the use of the clinical thermometer) in the case of all tramps are important measures, which of necessity must be compulsory, and so restrain the liberty of the subject. Perhaps a little restraining of the liberty of such subjects as tramps would materially advance the hygienic welfare of the rest of the community.

The preventive measures advised are: (1,) That vagrants should be restrained in their powers of carrying infection about the country, especially in epidemic times (? legally); (2,) That they should be made to report their movements; (3,) That they should, when requisite, be subject to detention, re-vaccination, and disinfection.

The subject of puerperal fever has been much discussed during the year, and the general feeling is that it is a preventable disease—often caused by a transference of septic matter from the medical attendant or others to the parturient woman.

Views about diphtheria are undergoing a change. We are beginning to realize now that every case of diphtheria does not arise from an antecedent one, nor from insanitary conditions, but *may* arise from cows which at times contaminate milk supplies. This latter fact (interesting as it is) would point to the importance of better control of our milk supplies and our dairies, together with the desirability of boiling all milk before domestic use. The importance of school infection in the propagation of diphtheria has also been much insisted upon during the last year—diphtheria being more prevalent at school ages, and probably spreading *directly* from scholar to scholar, or *indirectly* through defective closets and drains.

With a commission sitting and reporting on tuberculosis, the subject has naturally attracted the attention of medical men, and especially hygienists with a view to its prevention. The subject was discussed by the Society of Medical Officers of Health, at their Annual Meeting at Newcastle, in August, 1893, and it was resolved that, whilst accepting the view that phthisis is an infective disease in the prevention of which active hygienic measures should be taken, it was premature to recommend the compulsory notification of a chronic disease like phthisis. The Society approved of the Memorandum, which had been prepared by the North Western Branch of their Society, as giving an excellent basis of action. The following is a copy :—

MEMORANDUM OF THE NORTH WESTERN BRANCH OF THE SOCIETY OF MEDICAL OFFICERS OF HEALTH AS TO THE PREVENTION OF PHTHISIS OR CONSUMPTION.

Kind of Disease.—1. It has been abundantly proved that "Phthisis" or "consumption" is an infectious disease.

Source of Infection.—2. It does not appear that this disease is very, if at all, infectious through the breath of a patient; but it is quite certain that it is infectious by means of the *sputum* (expectoration) which a sick person coughs up from his diseased lung.

Infective Material easily dealt with.—3. The means for preventing the spread of phthisis, therefore, from person to person, are made very simple by reason of the infective material being easily recognizable.

Manner in which the disease is usually spread from person to person.—4. The manner in which phthisis is usually spread from one person to another by means of the sputum is as follows:—

(*a*,) A consumptive patient coughs up a quantity of sputum, in which are enormous numbers of the specific germ, *bacilli tuberculosis;*

(*b*,) The sputum lodges where it is spat on, and there dries;

(*c*,) When dried, the sputum is usually pulverised and floats in the air as dust;

(*d*,) The germs contained in the sputum, though dried, are still living, and able to infect the air in which they are suspended;

(*e*,) The infected air when breathed is liable to cause phthisis. This is more particularly true of people who are already suffering from phthisis and whose recovery is thus prevented.

Measures for the Prevention of Phthisis from person to person.—5. All phthisical sputum must, therefore, be burnt or efficiently disinfected if any decided measure is to be taken to prevent the spread of phthisis from person to person;

(*a*,) The sputum from consumptive people should be at once burned by being spat into the fire, or, better still, spat into a piece of paper or a rag, which should be at once burned;

(*b*,) Sputum may, however, be spat into a glass or porcelain vessel containing a 15 per cent. solution of carbolic acid, or (if carbolic acid cannot be obtained) simply some water. The contents of this vessel should be emptied once a day into a sewer outside, after which the vessel should be washed with boiling water and recharged;

(*c*,) All persons affected with a cough which has become chronic should, when attending a workshop, assembly, or church, spit into a hand-glass spitoon containing the aforenamed disinfecting solution. Such a spittoon may be conveniently attached to the person;

(*d*,) No person suspected to have consumption should spit into a pocket-handkerchief, or into a rag, or on clothes, unless such be forthwith burned;

(*e*,) No person, *whether consumptive or not*, should on any account spit on the floor or walls of any room, railway carriage, or public conveyance;

(*f*,) The eating utensils of a patient suffering from consumption should be kept separate from all other utensils of other persons, and should be washed separately from others in boiling water as soon after their use as possible;

(*g*,) The clothing of a consumptive person must be washed separately from the clothing of other persons;

(*h*,) The bowel discharges of a consumptive person should be disinfected with the aforenamed solution (*b*), and soiled linen should be at once boiled;

(*i*,) A consumptive patient should, as far as possible, occupy a separate room or rooms; and where this is not possible special care should be exercised in destroying the sputum and excreta of the patient;

(*j*,) The furniture of a consumptive patient's room should be as simple and plain as possible,—without fluting or carving, which provide lodgement

for dust; especially should hangings and unnecessary carpets and rugs be avoided;

(*k*,) When it is settled that any member of a household is consumptive, the whole house should be at once thoroughly cleansed, including the walls and ceilings; the furniture and floors should be washed with water as near boiling temperature as possible and containing carbolic acid in the proportion of four tablespoonfuls to a gallon of water; the walls should be cleansed down with the crumb of bread, the ceilings whitewashed, and clothing and bedding disinfected by steam or by boiling, as in the case of any one of the other infectious diseases;

(*l*,) The walls, floors, and ceilings of the living and sleeping rooms of persons suffering from phthisis should be cleansed and disinfected in the foregoing manner once in every two months;

(*m*,) The room or rooms of a consumptive patient should, in the event of death, be disinfected as after death from one of the infectious diseases;

Additional General Precautions against the spread of Consumption.—6. There are several practical measures which may be taken to prevent the contraction of the disease, and which are not difficult to carry out;

(*a*,) A mother who is suffering from consumption should on no account be allowed to suckle her child;

(*b*,) All cow's milk, *especially that for the use of children*, should be thoroughly boiled before being drunk. There is no sort of legitimate doubt that tuberculosis in children is largely caused by the use of un-boiled milk from consumptive cows. There is no truth in the belief that boiled milk loses its strength or is less digestible;

(*c*,) All meat should be thoroughly well cooked, and not be eaten underdone;

(*d*,) The lungs of all people should be more thought of and cared for by themselves than is at all common at the present time;

(*e*,) The dwellings of all people should be well and freely ventilated at least once in every day, and all dark corners and recesses therein should be kept scrupulously clean;

(*f*,) The lungs of all persons should be specially protected from the bad influences inseparable from damp and overcrowded dwellings, and from dusty occupations;

(*g*,) Some household pets (for example cats), are susceptible of tuberculosis, and if suffering from any chronic disease should be destroyed;

Conclusion.—7. If the general public, and those who are sufferers from phthisis, would undertake to put the foregoing advice into actual practice, there can be no question but that there would in the next few years be a marked decrease in the fatality from phthisis in this country. Moreover, as it has been shown that phthisis, in its less advanced stages, is a *curable* disease, there is every encouragement to adopt these protective and hygienic measures for the benefit of a patient suffering from the disease.

A proper system of sewerage and a reconstruction of old privies and pails into W.C.'s, are also subjects that have come to the front during the year. Manchester applied to the Local Government Board for a provisional order to enable her corporation to borrow a large sum of money for the purpose of converting the pail and other closets into W.C's., with suitable drains (such drains to be hereinafter maintained

and repaired by the corporation). It was proposed by the sanitary committee that one half of the cost was to be borne by the corporation, and the other half by the property owners, but the council practically decided that the corporation ought to bear the whole cost of such conversion. The application to the Local Government Board was, however, unfortunately unsuccessful.

In the New Code of the Educational Department, issued at the beginning of the year 1893, an important change has been introduced, enabling any two members of a sanitary authority acting on the advice of their Medical Officer of Health to give notice to the managers for the closure of a Public Elementary School, or for the exclusion of any scholar or scholars therefrom, for a specified time with a view to the prevention of infectious disease. Previously, the whole sanitary authority had to give the necessary notice to the managers, and this often caused delay; whereas now any two members may constitute themselves the sanitary authority for such purpose, should the whole sanitary authority be unable to meet from any cause.

New Inventions, Improvements in Pharmacy, and Dietetic Preparations.

DIETETIC PREPARATIONS.

Beef Bouillon.—This is one of the latest productions of Messrs. Brand, of Mayfair. It is practically a portable soup requiring only the addition of a breakfast cup of hot water, and any other condiments according to the taste of the consumer, to produce a very excellent and palatable soup. It is a change from the ordinary beef extracts, and that is a great deal when the capricious appetite of the invalid has to be catered for.

Cocoas.—Messrs. Fry & Sons again forward samples of their various preparations, which have proved on examination to be of the high standard of excellence for which the productions of this Firm are noted. We cannot add much to our favourable report of last year, but we have found their Pure Concentrated Cocoa of the highest dietetic value, and specially useful for convalescent patients and others who require nourishment immediately before retiring to rest. For this purpose a palatable, easily digested, and nutritious beverage is a boon, and these qualities are well met by this preparation.

Messrs. Rowntree have also sent a sample of their Elect Cocoa, which possesses very great solubility and a most agreeable flavour.

Diabetic Foods.—Messrs. Gallard, of 65, Regent Street, have sent us six varieties of their biscuits which are so widely recommended by our colleagues to their diabetic patients. Four of these samples are quite free from starch and sugar, while in the other two there is no sugar but a slight trace of starch. This is precisely in accordance with the statement of the makers.

Digestive Meat Biscuits.—These are guaranteed by Messrs. Brand & Co., of Mayfair, to contain the nutritive properties of fresh meat. They are very palatable, and will be relished by invalids, to whom they can be recommended with full confidence in their sustaining properties.

Lloyd's Universal Food.—This preparation has been used with great satisfaction by a number of our friends, who have found it well assimilated by patients suffering from functional and organic diseases of the stomach. The term 'Universal' is probably applied because it

is equally serviceable as a food for infants. It is malted and well cooked, so that it needs no boiling. It has a distinct but pleasant flavour. It is made by George King & Co., Sycamore Street, London, E.C.

Malted Milk (Horlick's).—This appears in the form of a fine powder, of a sweetish pleasant taste, the flavour of the milk and malt being readily recognized. It is made by the diastasic action of malted barley on milk, which is subsequently evaporated to dryness in vacuo. The method of preparation leaves all the nourishing properties of the milk intact, while it is rendered digestible and palatable to those who cannot ordinarily digest milk. The preparation is therefore likely to be found of very great assistance to the profession in dealing with a number of forms of debility, both in infant and adult life. We find that there is entire absence of starch, and that the coagulation of the casein by means of acids is rendered impossible. It digests much more rapidly than raw milk, and therefore the support derived from its administration is quickly felt by the patient. Our clinical experience with this preparation has been considerable, and we have learned to value it very highly. We think that one table-spoonful to the half-pint of water is sufficient for ordinary purposes, and that it is better to give it frequently and freely diluted than to make it three times this strength, as recommended by the manufacturers. The addition of a little cream adds to its nutritive properties, and we find that cream is well digested when so administered by those who cannot take it under ordinary circumstances. The Malted Milk Co., 39, Snow Hill, London, are the manufacturers.

Meat Jellies.—Messrs. Benger & Co. send us samples of Peptonized Beef Jelly, and Peptonized Chicken Jelly. They are put up in glass jars of good shape, and readily opened. The jelly is of excellent quality and free from added chemicals, which are usually found in such preparations for the purposes of conservation. The price compares favourably with other preparations, while the advantage of glass over tin needs no comment.

Mosquera's Beef Meal.—We have given considerable attention to this preparation, because it appears to realize more perfectly than any other the ideal of a concentrated Beef Extract. It contains all the constituents of the meat, not merely the albuminoids, but also the fat, extractive matters, and mineral salts. It is predigested, but has not that objectionable flavour which we usually associate with such products. We have used it made into a paste with milk or cream, and spread on bread and butter, and taken as sandwiches. It may also be stirred

into any beverage the patient may fancy. We believe that this product will have the approval of all medical men, because it represents the food value of the meat, and not only its stimulating properties. Messrs. Parke, Davis & Co.

Pilsener Lager Beer.—The word Pilsener has been applied to so many products of the German breweries that it has ceased to have a distinctive meaning, and there are comparatively few consumers in this country who know the tonic exhilarating effect of the genuine Pilsener. We have used a Pilsener beer imported by O. Bruster and Co., of 143a Holborn, E.C., which has given the greatest satisfaction, and careful analysis has shown that it is an absolutely pure beverage, compounded only from malt and hops. We can commend it to the notice of the profession with every confidence.

Savoury Biscuits.—This is a product of the firm of Messrs. Brand & Co., of Mayfair, to meet the demand for an unsweetened biscuit, which will not cloy the palate of the invalid. These biscuits meet this requirement admirably, and we are glad to make their acquaintance.

PROGRESS OF PHARMACY.

Adeps Lanæ.—This is a pure neutral wool-fat, having the great advantage of not being sold under a name representing a registered trade-mark, and consequently at increased cost to the consumer. It is produced in the anhydrous state, so that it may be used without the addition of water. It melts at the temperature of the body, and being of a delicate supple consistence it is very suitable for all purposes for which other wool-fat preparations are employed. Agents : Thomas Christy & Co.

Agathin (Salicyl-a-methyl-phenyl-hydrazone).—This remedy, discovered by Dr. Ross, of Frankfort, is affirmed by Dr. Ebeling and others, after a careful trial in the Municipal Hospital, to be a reliable analgesic in articular rheumatism, neuralgias, sciaticas, and other neurotic and rheumatic affections. It causes free perspiration and increase of appetite, with speedy relief of the pain. Its analgesic effect is gradual, increasing as the dose is repeated.—Agents : Messrs. Burroughs, Wellcome & Co.

Ammonia Aromat. (Solut).—This is brought forward as a substitute for sal. volatile by Messrs. Anderson & Co., of Edinburgh. It is cheaper than the B.P. preparation.

Analgen.—A derivative of quinoline, closely allied in therapeutical properties to antipyrin. It is said to be less depressing in its effects.

It has been largely used in Germany to relieve pain, in doses of 8 to 15 grains.—Agents : Thomas Christy & Co.

Calf Lymph.—Dr. Pissin, of Berlin, has devoted great attention to the production of a calf lymph which would prove of a more stable quality than that usually obtainable. We are not acquainted with the method adopted by him in the production of his "Emulsified" lymph, but the fact that it has, after careful tests, been adopted by the German War Department, proves that it meets the many requirements essential to a good preparation of calf lymph. It is manufactured under very exceptional precautions, and will retain its activity for a very long time, even in tropical climates. Mr. F. J. Rebman, 11, Adam Street, Strand, W.C., is the British agent.

Calisaya Bitters.—The tonic properties of calisaya are more likely to be generally recognized now that an excellent preparation is obtainable. With many it is regarded as an excellent substitute for quinine, and there can be no doubt that for improving the appetite it is superior. It may be given with water, but preferably in a little white wine just before meals. Messrs. Parke, Davis & Co. are the manufacturers.

Capsicum and Menthol Ointment.—As users of capsicum for the relief of muscular rheumatism long before it had come into prominence as a pharmaceutical product, we are interested in the combination of menthol with this agent. It has been so prepared by Messrs. Sumner because patients complained of the burning pain of the capsicum, and the menthol alleviates this. It is the subsequent application of heat in any form which produces the burning sensation after capsicum. We once had a patient who gave up using some capsicum ointment because it produced no effect. He had not used it for forty-eight hours, but we ordered him a Turkish bath, and in a few minutes he recognized that the ointment was a real live remedy. It is possible that menthol ointment would relieve the burning sensation of capsicum, but we doubt that the combination would do it, because the effects of the former are transient, while those of the capsicum are persistent, and will remain latent so long ; but as menthol is itself a very potent analgesic, it appears to us a very suitable remedy to combine with capsicum. Messrs. Sumner & Co. are the manufacturers.

Coca.—Messrs. Armbrecht, Nelson & Co., whose Coca Wine is so well known to the profession, have introduced the following new preparations :—

Coca made with Champagne at Reims.—This is an excellent dry champagne, possessing the properties of coca as a stimulant, combined

with the more immediate exhilarating effects of the sparkling wine. It should prove of great service in those conditions of nervous and physical exhaustion where both champagne and coca are used with good effect.

Coca Lozenges.—These contain the extract of the dry coca leaves made up into a lozenge. The taste of the leaves is very evident, and gives the lozenge a flavour which will render it very palatable to many. The tonic effect excited on the mucous membrane of the pharynx is quickly observable, and the recommendation that these lozenges should be used both before and after any great strain on the vocal powers, appears to us sound.

Coca, Kola, and Extract of Meat.—These are lozenges made up with 5 grains of theobroma, and each containing 5 grains of coca, 6 grains of kola, and 2 grains of extract of meat. The taste is that of the kola, which, with the other ingredients, is well adapted for sustaining the physical powers during prolonged fatigue or abstinence from food.

Messrs. Lorimer & Co., also send us a specimen of **Coca Wine** which is fairly palatable, and appears to contain a full proportion of the extract of the leaf.

Cocillana.—The therapeutic properties of this drug, which is likely to supersede ipecacuanha in the treatment of catarrh of the respiratory organs, have been fully discussed in another portion of the book (p. 14). The fluid extract sent to us by Messrs. Parke, Davis & Co. is considered the best mode of administering the drug, as it permits of all its properties being retained, and we need hardly say that the preparation has been very carefully prepared.

Collinsonia Canadensis (Liquid Extract).—The value of this remedy is not sufficiently appreciated. It has been used empirically in a number of disorders connected with the bladder and uterine organs, but its specific action appears to be on venous congestion wherever it may occur. Thus it serves equally well for the congested pharynx when the throat appears of a dusky purplish hue, and for a similar condition at the other end of the alimentary track, producing piles and constipation, or for similar congestions in the bladder and uterus. Messrs. Battley & Watts are the manufacturers of this extract, which may be thoroughly relied upon as containing all the active properties of the plant.

Corrosive Sublimate.—Compressed tablets of the salt mixed with colouring matter have been put up by Messrs. Burroughs, Wellcome, & Co., so that each is sufficient to make a pint of the "L.G.B. Disinfecting Fluid."

Messrs. Hewlett, of Charlotte Street, E.C., have also prepared pellets of this agent combined with colouring matter, one making a pint of a 1—2000 solution. They are small enough to be conveniently carried in the pocket or surgical case.

Dusting Powder.—Messrs. Ferris & Co. have produced a dusting powder containing 5 per cent. of cyanide of mercury with zinc. This should be very valuable for a variety of surgical purposes.

Eucalyptus (Oil of).—The sample sent us by Messrs. Burroughs, Wellcome & Co. is particularly pure, and we understand that it is obtained by distillation from the leaves only, which accounts for the large proportion of eucalyptol present.

Filix Mas (Emulsion).—Everyone knows how difficult it is to dispense or prescribe this remedy in a suitable form. Messrs. Sumner and Co., of Liverpool, have made an emulsion which removes every difficulty, and renders the dose of male fern a very elegant looking preparation.

Hepatica Triloba (Liquid Extract).—This is an extract of the liverwort, a plant which has had a great reputation in bygone times as a mild hepatic stimulant ; more lately it has been used with some success in chronic coughs, probably on account of its mild demulcent and astringent action. It deserves further trial at the hands of the profession, and the preparation which Messrs. Battley & Watts have brought before us is one which can be relied upon as preserving all the virtues of the plant.

Ipecacuanha.—By the substitution of glycerine for spirit, Messrs. Sumner & Co. have produced a very elegant preparation, equivalent to the vinum ipecac., at about half the cost.

Lassar's Paste.—This favourite application for eczema is produced by Messrs. Sumner & Co. with cosmine instead of lanoline. This makes a material difference in the price.

Liquid. Calcis Iodinatæ.—This contains 10 grains of iodine to each ounce. It has been lately used as a cheap substitute for iodide of potassium, and in any disorders where the action of iodine is desired. It is also a very effectual antiseptic for external use. This preparation is manufactured by Messrs. Willows, Francis & Butler, 101, High Holborn, W.C.

Liquid. Sedans.—This is the name given by Messrs. Parke, Davis & Co. to a combination of black haw, golden seal and Jamaica dogwood, which has been used with much success in America for the treatment of various pelvic and uterine disorders. It is a happy combination of the stimulant sedative and anti-catarrhal properties of the drugs

employed, and will prove of great service in those conditions where a general improvement in pelvic tone is the aim of treatment.

Lithia Tablets.—These contain 3 grains of citrate of lithia in an effervescent form. It is only necessary to dissolve one of these in water or any other beverage to obtain an alkaline sparkling drink, which owing to the time occupied in complete solution of the tablet, does not at once become flat from liberation of the carbonic acid gas. These should become very popular.—Messrs. Newbery & Sons, King Edward Street, are the British agents.

Malt c. Cascara.—A combination of malt with cascara has been introduced by Messrs. Sumner & Co. to meet the requirements of patients of weak digestion who suffer from constipation. The combination is quite palatable, and we think it will prove a very useful remedy.

Malt (Dry Extract of).—This appears as a fine powder, and can be mixed with milk or other foods to aid their digestion. It is manufactured by the Malted Milk Co., and the many uses which may be found for it require no enumeration. We like it on account of the readiness with which it can be prepared and used.

Maltoline.—A concentrated extract of malt in combination with cod-liver oil and hypophosphites, issued by Carnrick & Co., Lim. This is a well prepared and reliable preparation.

Manaca.—This remedy is officinal in Brazil, where it is classed as an anti-syphilitic, purgative, diuretic and emmenagogue. It has, however, attracted most attention as a remedy for rheumatism, in which disorder it is largely employed both in North and South America. Messrs. Parke, Davis & Co. have made a standard liquid extract of the root, which is now being used by those who are investigating the action of this interesting and promising agent.

Manganese, Lacto-Phosph. (Syrup).—This is a syrup containing 1 grain of lacto-phosphate of manganese to the drachm. It has been found of use in the treatment of anæmia and amenorrhœa, and forms a pleasant way of administering this agent.—Messrs. Gale & Co., 15, Bouverie Street, E.C., are the manufacturers. The same firm also manufacture the same preparation in combination with iron.

Naphthol Soap (Sellers).—This is a potash soap containing naphthol. The advantage it possesses is that the antiseptic properties of soaps of the tar and carbolic class are obtained without the objectionable smell or irritating properties of the latter. It is highly spoken of by Dr. Shoemaker as a tonic to the skin, and may be used freely as an ordinary toilet soap.—Agent: Mr. J. Sellers, 57, Farringdon Road, London, E.C.

Opiatine.—Under this name Messrs. Gale & Co., of 15, Bouverie Street, E.C., have produced a preparation which contains the active principles of opium, *i.e.*, morphia and codeia, without those principles of the crude drug which are apt to excite undesirable symptoms. It is a sedative without the capacity to cause headache and giddiness, which the use of the crude preparations of opium usually involves.

Opium (Elixir).—These are days when economy is studied. It has been found that by substituting glycerine for spirit in the preparation of the tincture of opium, it is possible to produce a preparation of equal service at about half the price. Messrs. Sumner & Co. are the daring innovators.

Organic Extracts.—Messrs. Ferris & Co., of Bristol, keep testicular emulsion, and other organic extracts, which they procure direct from the French laboratories, and which may be relied upon by those who may wish to test the claims put forward for these novel therapeutic agents.

Pancreatin (Pill).—A pill coated with keratin, to resist the action of the gastric juice, and containing the digestive principles of the fresh pancreas. These pills form a very convenient and reliable method of administering pancreatin. We have employed them with very satisfactory results. Messrs. Benger & Co., of Manchester, are the manufacturers.

Peptone Suppositories.—Messrs. Benger & Co., of Manchester, have selected a coating of Cacao Butter in the preparation of these suppositories, which are intended for rectal alimentation. They contain the active principles of meat in a peptonized form. They are likely to keep well and are very easy to introduce, and do not irritate the mucous membrane.

Phenosalyl.—This drug, first prepared and introduced by Dr. J. de Christmas, of Paris, is a powerful antiseptic and deodorant; it has been recommended by Drs. Cornil, Roskam, Berger, and others, for use as an injection (2 per cent. in water) in cystitis, blennorrhagia and gonorrhœa. It is valuable for sterilizing instruments, the hands, clothing, and dressings; it does not irritate the skin, nor corrode metallic instruments, and is less toxic than carbolic acid. Messrs. Burroughs, Wellcome & Co. are the agents.

Piperazine cum Phenocoll.—This is a granular effervescent combination of these two agents, which it has become fashionable to prescribe lately for gouty patients. Each drachm contains 2½ grains of each of the medicinal agents, and the preparation forms a most convenient and effective way of administering them. It is prepared by Messrs. Lorimer & Co.

Salix Nigra (Liquid Extract).—This is made from the Pussy Willow, which has lately been employed with success as a sedative to the sexual functions. It appears probable that it has a more specific action than bromides and similar preparations, and produces its results without depressing the general system.—Messrs. Battley & Watts are the manufacturers of this preparation.

Sanitas Toilet Fluid.—This is an excellent fluid for the toilet table, possessing the fragrant and antiseptic properties of sanitas. Employed as a mouth-wash it effectually removes the smell of tobacco from the breath, and added to the water used for washing it has a soothing effect upon the skin. We believe it will be very much liked by our readers who wish to get rid of the smell of the fragrant weed before visiting patients. Forwarded by the Sanitas Co.

The same firm sends us a **Sanitas Soap,** which is strongly impregnated with sanitas, but it is made with glycerine, and will prove very irritating to persons of delicate skin. Sanitas itself is particularly adapted to the manufacture of a good deodorant soap, and we hoped that this would have proved particularly suitable for this purpose, but we cannot recommend it as at present prepared. We hope to receive a better specimen next year.

Sulphite of Magnesium.—This salt is growing in favour as an agent for destroying the diphtheritic membrane ; it is hardly necessary to say therefore that Messrs. Burroughs, Wellcome & Co. have produced it in tabloid form.

Thyroid Gland.—Messrs. Ferris & Co. send samples of the Extract prepared in the form of capsules, each representing one-eighth part of a fresh gland, in Powder of the dried gland, which may be administered in doses of 5 to 30 grains, and in Pills, each being equal to one-eighth of a gland. They also make a sterilized Glycerine Extract of the gland, which may be administered in doses of 1 fluid drachm. These preparations have been carefully tested, and are reliable.

The powder of the dry thyroid gland has been put into the form of "Tabloids" by Messrs. Burroughs, Wellcome & Co., each being equal to 5 grains of the gland.

Messrs. Willows, Francis & Butler also prepare a thyroid juice, of which one drachm is said to be equivalent to the weight of a single gland.

A fluid extract of the fresh thyroid gland for internal use is produced by Messrs. Benger & Co., of Manchester. Each fluid ounce is guaranteed to contain the active principles of two lobes.

Messrs. Allen & Hanbury also send us some well made compressed tablets of thyroid gland.

Tinct. Camph. Co. (Aquos).—This is the ordinary B. P. preparation, with the exception that a large portion of spirit is omitted ; the result is that an equally efficacious preparation is procurable at half the price. Messrs. R. Sumner & Co., of Liverpool, are the manufacturers.

Vichy Tablets.—These are tablets which when placed in water cause active effervescence, the resulting solution being similar in composition to the natural mineral water of Vichy, after which they are named. They form a pleasant, portable and economical substitute for the imported water, and it seems probable to us that they will find an extensive application as a substitute for the ordinary aërated waters used at table and for admixture with spirits. The pellet occupies about five minutes in complete solution, and during that time the fluid in which it is placed is maintained as a sparkling beverage. Messrs. Newbery & Sons are the British agents.

Whortleberry Wine.—The good effects obtained from the whortleberry as a mouth wash in cases of leukoplakia, psoriasis linguæ, and other affections of the tongue, is hardly as widely known as it should be. Messrs. Ferris & Co., of Bristol, at the suggestion of Dr. Percy Wilde, have produced a permanent preparation of the whortleberry in the form of a wine, which, when diluted with water, makes a tonic and astringent mouthwash and gargle of a very pleasant character, in addition to the specific effects it appears to exercise on the mucous membrane of the tongue. We have found it excellent to clear a loaded tongue, and much appreciated by patients.

Wine of Cod-liver Oil with Peptonate of Iron (Stearn).—This is said to contain "25 per cent. of cod-liver oil, as represented by its active constituents—morrhuine, butylamine, amylamine, iodine, bromine and phosphorus." We cannot endorse the view put forward by the manufacturers ; in fact, there is reason to believe that the first three of these so-called active principles are simply decomposition products, and do not exist at the moment when the oil leaves the hepatic cells. It is stated that good results have been obtained with this wine, and both the iron and wine are good, but the claims made on the label of the bottle are decidedly bad.—Agents : Thomas Christy & Co.

Messrs. Christy & Co. send a preparation of *Dike's Pepsin* in scales. It is non-hygroscopic, and more soluble than most preparations ; also a sample of *Stearn's Cascara Aromatic* which is a pleasant preparation of cascara, being free from the ordinary bitter taste.

Messrs. Armour & Co. send us a number of samples of their various preparations of *Pepsin and Pancreatin* which they have produced in forms especially adapted for obtaining the full advantage

of these digestive ferments. Their nutrient wine of beef-peptone is a distinctly different preparation from many of the same class, and is one which we can highly commend.

Messrs. Sumner & Co., of Liverpool, send samples of *Tasteless Ext. Cascara Fluid*, an improvement on their well-known preparation ; also *Cremor Bismuthi c. Cerii*, which has given good results in the vomiting of pregnancy and other irritable conditions of the stomach ; also a superfatted *Bin-iodide Soap*, and an *Ointment* containing Hyd. Biniodide 1—1000, both intended for use in cases of scarlatina.

Mr. J. Sellers, 9, Farringdon Road, sends the following : *Mist Cerii Co.* (a mixture of oxalate of cerium, nux vom., hydrocyanic acid and ether), *Mist. Bismuthi Co.* and "*Gastrodyne*."

Messrs. Benger & Co., send samples of their *Liquor Pepticus*, *Liquor Pancreaticus*, and *Benger's Food.* These have been so long and so favourably known to the profession that no description is necessary. They also send some peptonizing powders for the predigestion of milk, soups, etc., which we have tested and found very reliable.

Messrs. Newbery & Sons, King Edward Street, send samples of *Compound Liquorice Powder* (U.S.P.) put up in tablet form, 2 to 6 constituting a dose. The same Firm sends *Charcoal* prepared in a similar way, and rendering it more easy of administration than when dispensed in the powdered form.

Messrs. Hewlett & Son send a distilled Liquid Extract of *Hamamelis*, and a sample of their well-known *Disinfecting Fluid.*

Messrs. Battley & Watts send the following : *Liquor Secali Cornuti* (one drachm is equivalent, therapeutically, to one drachm of the powder), *Liq. Cinchonæ Cordifol* (one drachm equals one ounce of the bark), *Liq. Opii Sed.*, *Liq. Bismuthi Co.*, *Liquor Iodi Alb.* (an oil, colourless, but containing 20 grains of iodine to the ounce), *Syr. Quatuor Hydrobrom.*, *Liquor Valerianæ* (two fluid drachms are equal to ten ounces of the infusion), *Liq. Colchici Recentis* (eight drops are equivalent to one grain of the extract). This preparation should be used in doses not exceeding 4 drops. The reliability of all these preparations is so well understood by the profession that no comment is necessary.

Messrs. Gale & Co., of 15, Bouverie Street, send *Ung. Sudori Co.*, a soothing ointment, well adapted for the treatment of irritable skin. *Ung. Rubefaciens* (composition not stated), *Linctus Tussi sine Opii* (each drachm of which contains one and a half minims of ac. nit. dil. and three minims of vin. ipecac.), combined with demulcents and expectorants.

Messrs. C. J. Hewlett & Son send preparations of various ointments in collapsible tubes. *Antiseptic Jelly*, is a pleasantly scented unguent containing 1 in a 1000 of perchloride of mercury. *Antiseptic*

Cream is a combination of oleate of zinc, boric acid and wool-fat. *Witch-hazel Jelly* is also put up in this form.

Mr. John M. Richards, of Holborn Viaduct, sends a sample of *Lacto-Peptine*, which retains the high standard of activity as a digestive agent which has made it famous.

Messrs. Calvert's Carbolic Acid Dressings, Soaps, etc., have long enjoyed a high reputation for reliability and elegance. The Firm prepares a dentifrice—*Dento-Phenolene*, which also contains phenol, and is certainly a most agreeable antiseptic mouth wash. For tobacco smokers it is especially recommended as an efficient deodoriser of the mouth and breath.

NEW INVENTIONS.

Accouchement Binder.—This is a beautifully soft band, four feet in length and fourteen inches in width, which may be used both before and after accouchement. It is of open texture, so that it is much cooler than the bandages in ordinary use, while its great pliability renders it easy to adapt it firmly to the body. It costs, with special safety pins, fifteen pence, and our readers can recommend it to patients with every confidence. Dr. Corry, of Bournemouth, suggested it, and it is made by the A. de St. Dalmas & Co., of Leicester.

Automatic Grip and Splint (Hunter's).—This is a means by which the obstetric binder or other broad bandage may be tightened and

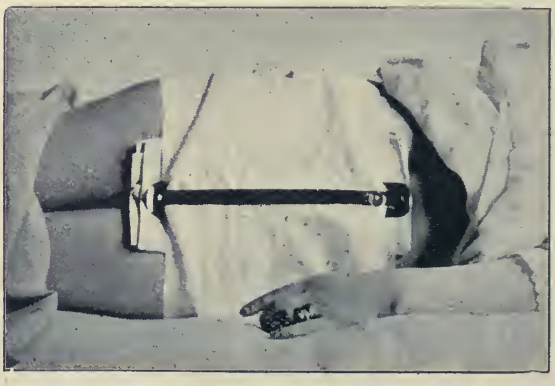


Fig. 71.

fixed without the necessity of using pins, or disturbing the patient (*Fig.* 71). It consists essentially of a piece of metal with two

parallel slots, on either side of which are curved teeth. The end of the bandage being placed through these slots, and tightened by being pulled in an upward and outward direction, is finally lowered until it is caught and fixed by the teeth. It is being tried as a splint for fractures, and is likely to prove most valuable, because it allows the limb to be completely fixed by a single fold of bandage. It is a remarkably simple and clever invention, and is attracting considerable attention, both in this country and in Germany. The inventor is Mr. B. Hunter, 5, Brandon Villas, Charlotte Street, Bristol.

Domen "Belt Corset."—This is a production of the well known "Teufel Company," the name of which has been lately changed to "Domen Belt Co." The Belt Corset is an actual combination of a corset with a belt, and has all the advantages of each without the inconvenience entailed when the separate articles are worn. It possesses the great superiority over the ordinary simple corset, that it prevents the down pressure on the internal organs, which even moderately tight lacing involves, while it gives efficient and valuable support both to the spine and to the abdomen. The belt is of firm construction in front, but has elastic sides over the hips, which not only provide sufficient elasticity but also ensure perfect adaptation to the figure. Just as in the Teufel Belts of the same company, the manufacturers do not trust to the simple circular compression to effect the desired result, but by means of a broad elastic band, which can be adapted after the corset has been adjusted, the ordinary tendency to bulging in front can be obviated.

Antiseptic Scalpels.—Messrs. R. Sumner & Co. have produced a set of surgical scalpels, entirely made of metal, and conveniently arranged in a good metal case, sufficiently compact to be readily carried in the pocket. It has in addition a leather cover to protect the metal. The instruments and the fittings are decidedly superior to other cases of this

Fig. 72.

character that have come under our notice, and the fact that the complete outfit with seven scalpels is produced for 21s., renders it particularly worthy of the attention of those who prefer to have instruments which can be rendered aseptic by simply throwing them in boiling water without risk of injury.

Appliance for Shortened Limbs.—All will agree as to the very unsatisfactory nature of the appliances used for the purpose of adding length to a shortened limb, and it is with considerable pleasure that we have become acquainted with the method called "The O'Connor Patent Extension." The usual position of the foot in those who have a shortened limb is for the heel to be drawn up and the toes pointed to the ground. In providing a support it is desirable to throw as much

Fig. 73.

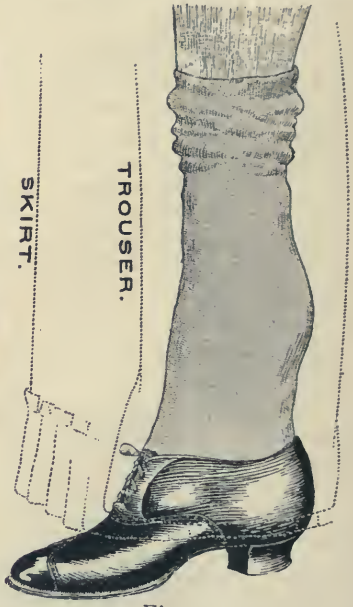


Fig. 74.

of the weight of the body as possible upon the heel. Now if a platform is placed under the heel at the exact height of its distance from the ground (*Fig.* 73), the toes will naturally occupy a plane some inches lower. If a boot with a very long and wide "upper" was placed on the ground, and the foot of the shortened limb was inserted into the

"upper," the toes would come to somewhere near the instep of the boot, while the heel would be at the top of the "upper.' The invention consists in a practical arrangement of this kind, the foot being supported by a sloping platform within the "upper" of a specially made boot. A sock may be drawn over the whole, and an ordinary boot, or slipper even, may be added (*Fig.* 74). The result is not only greater ease and comfort to the wearer, but also that the deformity is disguised in a remarkable manner. The merit of the invention consists in the combination of sound physiological principles with the disguise of a distressing deformity. The O'Connor Extension Co., 275-6, High Holborn, issue a circular giving directions for measurement, etc., which is valuable to practitioners residing out of London.

Autometric Stopper (Fletcher's).—This is intended to serve as a stopper to any bottle containing fluid which requires rapid measurement of any portion which may be used. Attached to the stopper, which takes the form of an indiarubber bulb, is a graduated tube. By pressure on the bulb the fluid rises to the upper part of the tube. Now by pressing on a smaller bulb which surmounts the larger, the fluid is allowed to flow out drop by drop until the exact point on the scale has been reached. This will prove useful for a variety of purposes, both in medicine, chemistry, and photography. It will be especially useful for atropine and other eye instillations, being greatly superior to the similar appliances already in use.

Fig. 75.

Measure Glass (Coates).—This combines a medicine measure with the features of a feeding cup. It is made of glass and accurately graduated. The manifest advantage of this simple improvement is that the invalid can have the measured quantity of food or stimulant administered while in the horizontal position without the necessity of transferring it to the feeding-cup.—Messrs. Lynch and Co., Aldersgate Street, are the manufacturers.

Fig. 76.

A Cheap Thermometer.—This is a half-minute thermometer with magnifying index, produced by Messrs. Sumner & Co. for 2s. 6d. We have paid 8s. 6d. for similar thermometers twice during the last few months. We have tested Messrs. Sumner's instrument against one of

these, and we find it perfectly reliable, and we think from the appear ance of the bulb that it is less fragile than the more expensive instruments.

A New Bed-Pan.—A very decided improvement has been made on the old-fashioned bed-pan, the inconvenience of cleansing and emptying of which is perhaps better recognized by nurses than practitioners. The new form is the shape and size of the ordinary ware bed-pan, but it is made of enamelled iron. The top is made removable by simply releasing a ring put round the handle. It can therefore be cleansed as easily as a basin, and instead of being emptied through the handle—a most unpleasant proceeding—the contents can be readily thrown out. In hospitals it is often necessary to have special arrangements for the cleansing and emptying of bed-pans, but this renders the whole matter very easy. Messrs. R. Sumner & Co. are the manufacturers.

Bed Rest (The Core).—This bed rest is specially adapted for convalescing invalids, or acute cases of heart disease and dropsy. The back is curved and the pillows rest in lengthwise ; two are sufficient, and a third across the top is a support for the head. The lower curved band just fixes the back where weakness is most felt, leaving the lower part of the spine, where the skin is most delicate, to rest

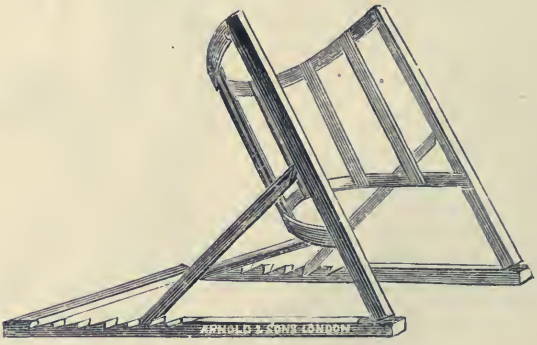


Fig. 77.

solely on the soft pillows. It can be arranged at any angle, so that a patient may sit quite upright, or, again, even in a recumbent position. There are brass buttons at the back, so that in a long and tedious illness pillows can be more firmly secured by means of pieces of strong tape in which button holes have been made. Messrs. Arnold & Sons, of West Smithfield, London, are the makers.

Bullet Extractor.—Finding that most existing bullet forceps are unsuitable and unsatisfactory for the extraction of the new compound bullet, Surgeon-Major Macnamara suggested a modified form of grip forceps, which upon trial have been found to answer extremely well. The extracting forceps overcome many difficulties hitherto presented. The form of grip represented in the engraving grasps firmly and holds a bullet securely in whatever position it may be caught. The bullet cannot rotate or slip when the forceps are closed upon it. Another important feature is that the end of the improved forceps is perfectly

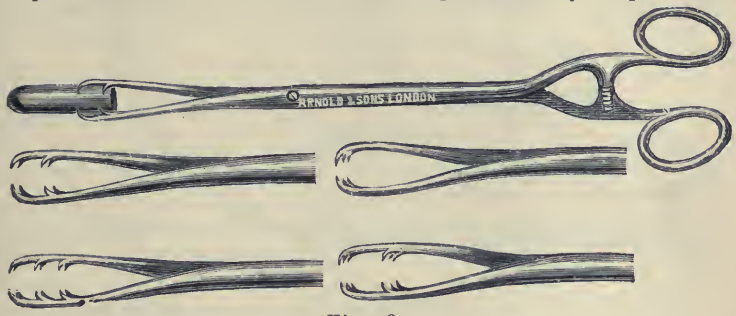


Fig. 78.

smooth and forms a probe—in fact, the instrument is a bullet probe and extractor combined. It further possesses the advantage that it is not liable to tear or injure the tissues. This particular grip will, it is believed, extract not only the new bullet, but will be found useful in the removal of bullets of any shape. Foreign substances also, of whatever nature, can be grasped and removed by its intervention.—It is manufactured by Messrs. Arnold & Sons, of West Smithfield, London.

Cachets (Morstadt).—So many of the newer remedies appear in the form of insoluble powders, that the best method of administration has excited some attention. By means of the cachet the powder is enclosed in rice paper, moistened, and then swallowed like a pill. Several machines have been introduced with the view to facilitate the manufacture of cachets for ordinary dispensing purposes, and the "Morstadt" apparatus is not only the latest but the best of these. The price is trivial, and the very beautiful parts of the cachet, which are supplied in all sizes by the agents (Messrs. Thomas Christy & Co.), cost about sixpence per hundred. The trouble of making up these elegant cachets is less than that of ordinary powders, while the result is more pleasing, both to the dispenser and patient.

Bozeman's Intra-Uterine Catheter.—This is a decided improvement on the well-known instrument. The extremity is made to unscrew, and the uterine tube thereupon falls into two halves, which can be cleansed efficiently. The whole instrument is made of metal, so that it is easily rendered aseptic; but in dealing with intra-uterine instruments, it is a great advantage to be able to easily get at the inner

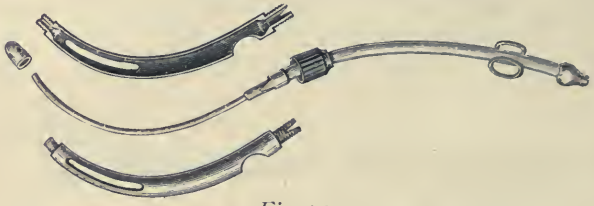


Fig. 79.

part of the tube which might possibly escape the process used for cleansing the other parts of the instrument. Considering the amount of clever workmanship required in the manufacture of this instrument, it seems moderately priced at 8s.6d. Messrs. R. Sumner & Co. are the manufacturers.

Catheter.—This is a glass catheter with numerous openings at the lower part to the extent of 1½ inches. The proximal end is funnel-shaped. It is intended for applying medicaments to the urethra. The catheter is directed to be passed a little beyond the site of tenderness, and then the medicated fluid is poured through the funnel-shaped end and escaping through the holes at its distal extremity bathes the affected part. We should have thought that the mucous membrane pressed against the apertures of the tube would have prevented the fluid from passing out of the catheter, but we have had no opportunity of testing this point.—Messrs. Fannin & Co., of Dublin, are the manufacturers.

Fig. 80.

Catheter (Lobster Tail).—The conversion of the extremity of a metallic catheter into a lobster tail gives the powers and advantages, both of a rigid and a flexible instrument. The stylet fits closely into the mouth, and passes to the end of the conical point, so that when it is *in situ* the catheter can be used like a silver one of the common pattern. But if on reaching the seat of obstruction it be found impossible to make the stiff extremity pursue its onward course, the

stylet can be withdrawn, thus endowing the instrument with a flexible point. The short three-pointed lobster tail then represents to some extent a finger which can grope here and there for the orifice of a tight stricture or the track of a tortuous urethra. The instrument also possesses the advantage, when its stylet has been taken out, of a gum elastic in being able to be pushed onwards with a little more force than could be ventured on when using a rigid metallic catheter. The lobster tail also adds very much to the safety of an instrument which has to be left in the bladder; for as soon as the stylet is removed the point of the catheter folds up, and is no longer likely to injure the vesical coats. It was suggested by Dr. Branch, and is manufactured by Messrs. Arnold and Sons, of West Smithfield, London.

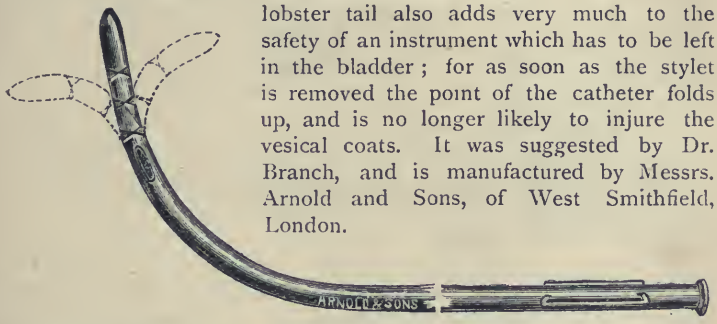


Fig. 81.

Dresser's Table.—This is intended for use in hospital wards. Its general construction will be best made clear from the annexed illustration (*Fig.* 82). The drawers slide right through the frame, so that they can be opened from either side. The top consists of a marble slab.—It is manufactured by Mr. Jno. Carter, New Cavendish Street, London.

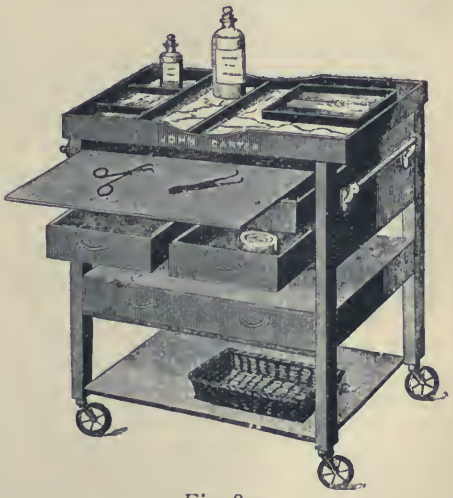


Fig. 82.

Hypodermic Case.—Our readers are familiar with the Hypodermic Tabloids introduced by the firm of Messrs. Borroughs, Wellcome & Co., and recognize their great convenience, safety, as regards precision of dose, and portability. The firm have brought out

a pocket case containing twelve tubes of these pellets, selecting those which are most likely to be required to meet any ordinary emergency in practice, with a well made Hypodermic Syringe, with duplicate needles. The case also contains a small glass pestle and mortar for crushing the pellets, and a very useful clip for holding the glass mortar during the operation of mixing the solution. The case is so small that it can be easily carried constantly in the pocket without reminding the practitioner of its presence, or if only employed when called to a case of emergency one can feel that it will enable prompt assistance to be given in most cases. It is a perfect "multum in parvo," and will be warmly appreciated by every practitioner who employs it.

Inhaler (The Sanitas Pocket).—A glass tube with shaped mouthpiece, adapted for the inhalation of essential oils, a pipette for dropping the fluid into the inhaler, and a bottle of Sanitas-Eucalyptus Oil, are packed into a neat box and sold by the Sanitas Co. for one shilling.

"Ozol" Pocket Inhaler.—This is one of the best constructed Pocket Inhalers which has come under our notice. The mouthpiece is closed with vulcanite, and the opposite end contains a valve, which admits air when in use and excludes it at other times. It is charged by the addition of "Ozol" to the cyclinder. This is a combination of Pine Oil and Eucalyptus. It is manufactured by Messrs. Carnrick & Co., Hart Street, London, W.C.

Rumboll Birch Gas and Ether Inhaler.—Messrs. Down Bros. have brought out a new inhaler for the combined administration of gas and ether. We have not had an opportunity of practically testing this appliance, and are obliged to postpone expressing any opinion on its merits.

Powder Insufflator.—This is a remarkably ingenious and well constructed appliance for the insufflation of powders to the throat, which has been introduced by Messrs. Burroughs, Wellcome & Co. The essential feature is that the various powders likely to be required for use are kept in specially made bottles, and when required for use, the bottle itself forms the powder cylinder. The readiness with which a series of different powders can be used with the same instrument is the most important merit of the invention. Another point is that the instrument forms an excellent tongue depressor, and the insufflating tube is so arranged that the powder can be directed on to any part of the throat with great precision. Altogether we can commend it as a very complete and practical instrument.

Lynch's Safety Enema.—We have often wondered why illustrations showing the action of an enema invariably represent a basin as the

reservoir from which the water is drawn. The tendency of the tube to slide along the convexity of the basin until its orifice is above the surface of the water, is a perfectly natural, although an undesirable proceeding. The use of a jug obviates this to some extent, but it has been left to Messrs. Lynch & Co., of Aldersgate Street, to adopt the very

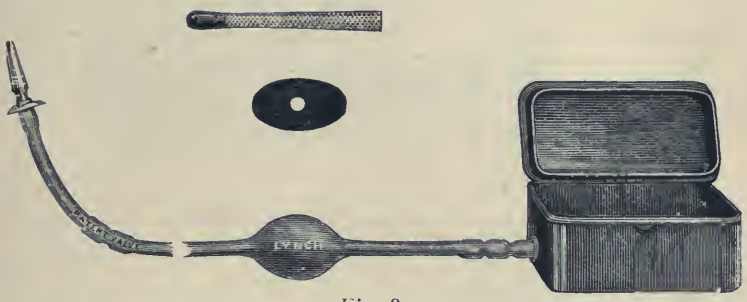


Fig. 83.

simple but happy idea of using the box in which the enema is kept as the reservoir, and to arrange this so that the suction end of the syringe is screwed into its end and in such a manner that the injection of air becomes impossible until every drop of water has been used. It is a simple idea perfectly carried out. The reservoir is enamelled inside and out, while the valves are made of glass instead of metal. It is excellently arranged for portability, and can be carried in the surgical or obstetric bag more conveniently than the ordinary enema syringe, while the metal box serves to keep it aseptic.

Enema Nozzle.—In giving nutrient enema it is necessary to secure that the fluid injected should be retained, and the ordinary nozzle does not assist us in securing this end. Messrs. Sumner & Co. have produced a nozzle of a cone-shape which, when pressed against the bowel, effectually prevents the return of injected fluids. It is made in two sizes, to meet the needs of adults and children respectively.

Fig. 84.

Debove's Syringe.—We have received a sample of this syringe from Messrs. Ferris & Co., of Bristol, and although it is mainly intended for the purposes of the administration of organic extracts, it possesses features which raise it above the ordinary level of new inventions, and which will render it useful for a variety of purposes to the practitioner. The needle is the size of the ordinary hypodermic syringe, but the syringe itself holds about 2 drachms of fluid, and its

great ingenuity consists in the way in which the whole of the parts of the appliance can be instantly separated for the purposes of cleansing. It would be difficult to explain the mechanism in print, but it is one which might be adapted with advantage for ordinary hypodermic syringes. Of

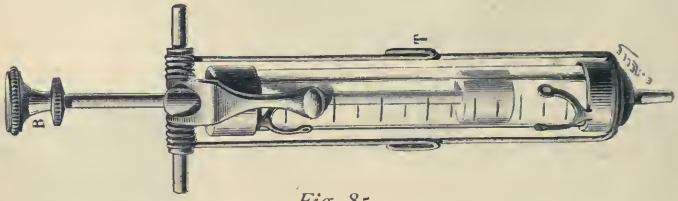


Fig. 85.

course for those who are trying the organic extracts such a syringe is indispensable, and it would be impossible to construct one that would answer the purpose so effectually; but apart from this it is an appliance which, for the exploration of tumours or the injection of any fluids subcutaneously, would be always useful; and no matter for what purpose it is used, it is so easily cleansed that its value would not be impaired. One valuable feature of the invention is that the piston is so arranged that the last drop of fluid is expelled from the syringe, so that accurate measurement is obtained; another is, that the needle is constructed so that it may be sterilized by holding it in the flame of the spirit lamp, without injury.

"Vonda" Syringe.—This is a vaginal syringe having an alternate douche and suction action. The vaginal tube is so constructed that it evenly distends the passage and closes the orifice, the injected fluid

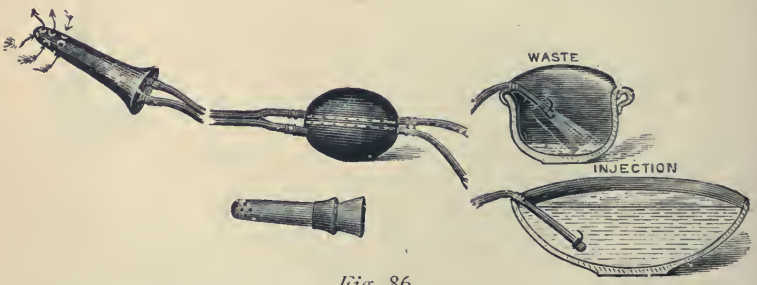


Fig. 86.

being prevented from escaping, except through a tube which communicates with a receptacle placed beneath the bed. This tube is not a simple out-flow, but acts by suction, reversing the action of the douche

which propels the fluid into the vagina. Both the douche and the suction actions are alternated by the pressure on a single bulb as in the ordinary syringe. It is claimed, with reason, that this suction action has a great effect in thoroughly cleansing the mucous membrane, and is therefore more effectual than any other syringe. For the injection of astringent or medicated lotions to the vagina it has the obvious advantage that the lotion can be maintained in contact with the part for as long as is necessary, and therefore a greater effect can be obtained from a small quantity of the medicated fluid, than from a much larger amount as ordinarily employed. For the antisepsis of the passages after confinements, it has the very great advantage of being capable of use even by unskilled hands, without danger of fluid escaping into the bed. We consider this instrument a distinct advance on the appliances in use for similar purposes, and that the profession will not be slow to appreciate its usefulness. Messrs. J. G. Ingram & Son, the London India Rubber Works, Hackney, London, N.E., are the manufacturers.

Obstetric Bag.—This bag is intended for carrying the instruments and bottles required at obstetric cases. It provides spaces for different sized bottles so that they are retained in place, also pockets for smaller instruments. It has the distinctive feature, which renders it a marked improvement on similar bags, that the inner lining which is likely to become soiled with use, is made of water-proof material, which admits of frequent washing, and for this purpose it can be easily removed from the bag and replaced. As the life of the outside of a good leather bag is frequently longer than its internal lining, it is an advantage to have one that can be replaced at any time without having to buy a new bag. We consider that this bag is not only well adapted for the purpose for which it is intended, but that it is also very suitable as a surgical bag for the ordinary requirements of practice. The washing lining is a very happy idea upon which we must compliment the manufacturers, Messrs. Savory & Moore.

Metal Vaccinator.—This is made entirely of metal, one extremity terminating in five sharp points. The advantage of having an instrument for vaccination purposes, which can be passed through the flame of the spirit lamp, or put into boiling water immediately before use, is self-evident. It is made by Messrs. Ferris & Co., at the suggestion of Dr. Napier.

Midwifery Forceps.—Dr. Murdoch Cameron's Midwifery Forceps are designed specially for use in cases of marked pelvic contraction. These Forceps have been favourably reported upon in the Glasgow

Maternity Hospital. The anterior blade, with its short fenestrum and sharply curved shaft, is applied first, and lies immediately behind the symphysis pubis. The posterior blade is applied over the anterior, *i.e.*, the handle of the latter slips through the fenestrum of the former as it is introduced, and takes up its position in front of the sacrum. The head is thus grasped laterally, and when the axis traction rod is adjusted, we have a most effective instrument. Messrs. Allen and Hanburys are the London agents. Price 35s.

Needle and Suture Case.—The question as to which is the best way to carry Surgical Needles in the pocket case has probably been often times considered by the practitioner, who finds that when stuck into a piece of flannel they are apt to be found rusty, when wanted. Silk thread also becomes dirty and thoroughly unsuited for use as a suture, when it has been carried for some months in a pocket case. Messrs. Evans & Wormull of 31, Stamford Street, S.E., have introduced a tube made of metal, and closely resembling a thermometer case, which opening in the centre, has a reservoir for needles at one end, and a moveable shuttle on which silk thread and silver wire are wound at the other. This effectually prevents either from becoming septic, and secures them in an accessible form. The tube will stand heating, so that the whole contents may be antisepticised by heat immediately before use if the practitioner thinks it necessary. The price complete is two shillings and sixpence.

New "Red Cross" Ambulance.—This ambulance has only three wheels, and has been constructed with a view to the ready removal of patients where narrow corridors and sharp angles have to be encountered. The hood is a distinct improvement on the old-fashioned hod-hoops, as it is immediately adjustable. It is manufactured by Mr. John Carter, New Cavendish Street, London.

Plaster of Paris Bandages—"The Perfect."—This name is given to a Plaster of Paris Bandage, manufactured by A. De St. Dalmas & Co., of Leicester. They are always ready for use, will keep good for any time, and are free from that grittiness which usually renders the use of this form of bandage objectionable. The tests which we have applied to them justifiy the title used by the manufacturers, and we can cordially recommend them.

Plaster (Self-Adhesive).—The improvement in this plaster over those in ordinary use is more real than apparent to the superficial observer. It is a diachylon plaster spread on holland or calico, but it has the advantage of adhering to the body without any preliminary warming, and it does not stretch in use. It is also more easily removable than

the ordinary plaster of the same character. We know that Mr. Lawson Tait uses it for abdominal operations, and considers it more suitable than any other. The cost of the Holland Plaster, 8 inches wide, is four pence a yard, and we can strongly recommend it for use both in hospital and general practice. It is made by A. De St. Dalmas & Co., of Leicester.

Prepared Surgical Sponges.—These are prepared by Ferris & Co., of Bristol, and are sent out in wide-mouthed bottles. The sponges are carefully rendered antiseptic, and are kept under conditions which prevent them from becoming impaired, so that the practitioner has always pieces of sponge ready for immediate use.

The "Wearne Clarke" Surgical Dressing.—This consists of a layer of absorbent wool (sublimated 1—400) which is placed next the wound surface, and of a layer of grey non-absorbent wool which is so prepared as to resist the absorption of fluid. But the air, filtered of impurities, obtains free access to the wound, and there is no impediment offered to free evaporation from the skin. This dressing not only fulfils every physiological requirement, but it is also very convenient of application, it being only necessary to wrap it round the wound and secure it in position to form a complete dressing on the most approved principles. Messrs. Robinson & Sons, of 55, Fann Street, Aldersgate Street, London, E.C., are the manufacturers.

"Reliance" Tourniquet.—Messrs. Arnold & Sons have introduced a new form of grip or fastening for an elastic tourniquet. It is simple, light, and very inexpensive, made in the form of a hook but tapering towards the end, with an indiarubber ring for attachment. It can be secured or released instantaneously. By simply placing the tubing in the hook it is held firmly and securely, and by a gentle outward pull it can be immediately released. In case of railway, mining, colliery, or any other accident, an instrument of this kind should always be in readiness. This form of tourniquet is so simple in its fastening that it can be immediately applied by inexperienced hands; on this account it is strongly recommended.

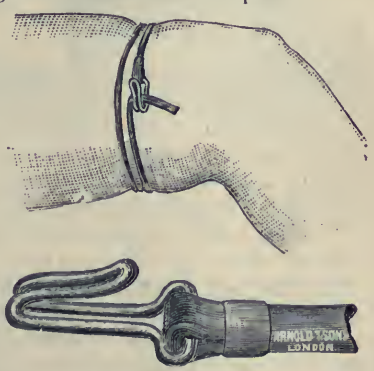


Fig. 87.

Drainage Tubes.—These are carefully carbolized and perforated, and arranged in assorted sizes. They are put up in tube-shaped

Fig. 88.

bottles with a screw stopper. They are thus permanently preserved and always ready for use. Messrs. Ferris & Co. are the manufacturers.

Solid Stem Sprays.—Messrs. Ferris & Co. send us a spray having a very much needed improvement (*Fig.* 89). The weak point of the older sprays is the stem, which is so fragile that it readily breaks, and cannot be renewed. In this spray the stem is solid, and will stand any amount of wear and tear. The spray thrown by it is also a particularly nebulous one. Practitioners will do well to order "solid stem" sprays in future; the others are now out of date.

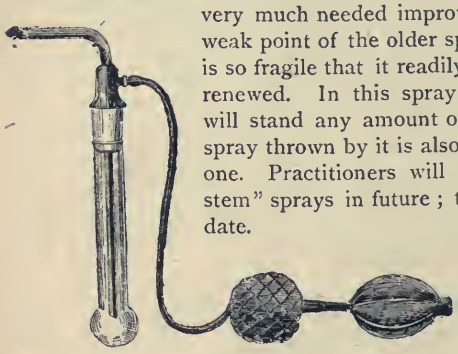


Fig. 89.

Messrs. Sumner and Co., of Liverpool, send us a Solid Stem Spray to which an additional improvement has been made. As is well known, when solutions are used of a saline character, the nozzle of the spray is apt to become clogged. In this instrument the stem of the spray consists of two tubes which readily slide one within the other. In doing so a wire is pushed right through the nozzle, so that it can be instantly cleansed at any moment. The spray thrown is very fine. This instrument is one which solves two of the greatest difficulties which are experienced in maintaining sprays in working order.

Sputum Cup (Aluminium).—This is an elegantly shaped receptacle for sputum, which, being made of aluminium, is exceedingly light—no small advantage if we remember how frequently the patient has to reach for, and lift it. The top is removable, so that the appliance can be cleansed and rendered aseptic at any moment. It costs 5s., and is a much more presentable looking article than those ordinarily used. Messrs. R. Sumner & Co. are the manufacturers.

Test-types and Chromatic Dial.—These types are obviously copied from those which were arranged for the "Medical Annual" by Dr. Percy Wilde some years ago, and will be familiar to our readers. They give the measurements of focal distance in feet and inches, and are therefore very conveniently used. The chromatic dial is the invention of Dr. Ward Cousins, and is a clever solution of a very difficult problem. It is almost impossible to devise a test for colour blindness, which is as reliable as the comparison of various coloured wools, but for all ordinary purposes the method adopted by Dr. Ward Cousins is sufficiently accurate. The combination of the types and chromatic dial in a neat case will well meet the requirements of the practitioner.—Messrs. Burroughs, Wellcome, & Co., are the publishers.

Thermo-Urinometer.—This Urinometer is a distinct improvement on those at present in use. It not only fulfils all the requirements of the best of these instruments, but it also measures the temperature of any fluid in which it may be placed; it is therefore two instruments in one. We have lately been engaged in a series of experiments which necessitated the taking of the temperature of fluids, and we have been much impressed with the advantage of having an instrument which will float in the fluid under observation. Messrs. Fletcher's Thermo-Urinometer accomplishes this, and we think it will be found valuable for many purposes in addition to those for which it is designed. Fletcher Fletcher & Stevenson, 21, Mincing Lane, London, E.C.

Fig. 90.

Throat Lamp (Cardew's).—For this simple but very practical appliance we are endebted to Dr. Cardew. It is simply a box for carrying wax vestas with certain small additions. One side of the box is concave, and being made of bright metal acts as a reflector; a small socket for holding the lighted match draws out from the lower part. It then serves every purpose of a throat lamp, as it throws a sufficient illumination on to the pharynx for more than a sufficient period to examine the pharynx. It of course finds its chief use on

the evening visiting round, and we have found it so useful that we should be sorry to be without it. The cost is trivial. Messrs. Burroughs, Wellcome & Co., are the agents.

Tongue Depressor.—This is adapted for consulting room use. It has a strong handle, and the part which comes in contact with the tongue is made narrow so that it does not conceal any unnecessary portion of the tongue. It is made entirely of metal, and is easily cleansed. Price 3s. R. Sumner & Co., Liverpool.

Uterine Set.—This consists of a plated stem and handle with screw movement, to which the following useful instruments can be fitted and adjusted at any required angle :—Curette, sharp hook,

Fig. 91.

Playfair's probe, sponge holder, and caustic case. It was suggested by Dr. More Madden, and is manufactured by Messrs. Arnold & Sons of West Smithfield.

Vaginal Irrigating Tube.—This appliance consists of an ordinary funnel through which a tube passes which can be lengthened and shortened as required. The tube, with the apex of the funnel, is introduced into the vagina, and if properly held, it is stated that a douche may be administered to a patient in bed, without fear of wetting the bed, as the water will flow out through the funnel and away to a receptacle with which the funnel is connected by means of a tube. We have not had the opportunity of testing the practicability of this appliance, but if it fulfils the object of its inventor it will be a very useful aid to the treatment of uterine diseases.—Messrs. Fannin & Co., Dublin, are the manufacturers.

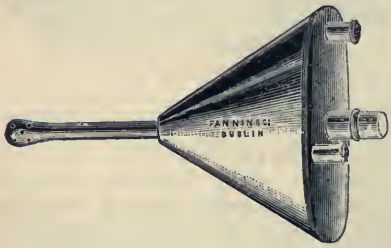


Fig. 92.

MISCELLANEOUS.

"Biltor" Cigarettes.—The Biltor Co., whose hygienic pipe we favourably noticed last year, as furnishing about the most readily purified and cleanly instrument we had seen for the use of smokers, have carried the same principle to good effect in the manufacture of Cigarettes, which have in each mouthpiece an adaptation of the same filtering cartridge which is so successful in the pipe. The effect is to thoroughly retain and filter the impurities of the tobacco smoke, and the idea should be advantageous to cigarette smokers from a hygienic point of view.

Eucalyptus Cigarettes.—These are made of good tobacco impregnated with eucalyptus, and form a pleasant means of guarding against influenza and other infectious disorders. They are not at all unpleasant, and leave a decided impression of eucalyptol upon the palate. Messrs. Dante are the patentees, or they can be obtained from Messrs. Burroughs, Wellcome & Co.

Washable Wall Papers.—When we received a number of samples of wall-papers from Messrs. Woollams & Co., of 110, High Street, London, which were guaranteed free from arsenic, we considered that the only duty which devolved upon us was to test their statement and record the result. But we were struck by the fact that there were a number of samples of delicate papers which were not only guaranteed as free from arsenic, but as also washable, and that these were marked at sixpence a piece. But these did not bear the appearance of the hard ordinary washing papers, which invariably smudge unless about two shillings a-piece is paid for them, and so we gave them a good hard rubbing with a sponge, and were surprised that we did not alter their complexion or colour by so doing. Some of the higher class and more expensive productions of the same firm would not stand this test, and were not intended to, although their freedom from arsenic was proved. The main point, therefore, which strikes us after careful examination is the fact that perfectly pure and washable papers can be produced at a low price, and that it is not necessary that such papers should differ in appearance from those in ordinary use which are not washable. This information has been valuable to us, and may be serviceable to our readers.

Lunatic and Idiot Asylums and Homes for Inebriates in Great Britain and Ireland.

We are very anxious to make this list complete, and to give all necessary information; but unless our circular of enquiry—*which in every case is stamped for reply*—is promptly returned, we cannot undertake the responsibility of inserting particulars of an Establishment which may have been closed.

ABERDEEN.—*Royal Asylum.* Res. Med. Sup., Wm. Reid., M.D.; Treasurer, Wm. Carnie, 27, Exchange Street.

ABERGAVENNY.—*Joint Counties Asylum.* Med. Sup., James Glendinning, M.D. Access—G.W.R. Station, ½ mile; L. and N.W. Station, ¾ mile.

ANDOVER (near).—*Fyfield* (for ladies). Med. Prop., W. J. H. Lush, M.D.

ANTRIM.—*Glenside House.* Med. Prop., Dr. Graham.

ARGYLL and BUTE.—*District Asylum*, Lochgilphead. Res. Med. Sup., J. Cameron, M.D. Access—Rail to Greenock, thence by Steamer to Ardrishaig, 2½ miles distant.

ARMAGH.—*Course Lodge*, Richhill, 5 miles from Armagh (for ladies only). Proprietors, James and Wm. Orr; Visiting Physician, Dr. Riggs. Access—Richhill Station, thence by own Conveyance, 2 miles.

District Asylum. Res. Med. Sup., Dr. W. Graham.

The Retreat. Proprietors, A. D. Allen & Sons. (For 20 male and 15 female patients, middle class.) Res. Med. Sup., J. Gower Allen, L.R.C.S., I. Access—Richhill, thence cab 1½ miles.

AYR.—*District Asylum.* Res. Med. Sup., C. H. Skae, M.D. Access—Ayr Station, 2 miles.

BALLINASLOE (Co. Galway).—*District Lunatic Asylum.* Res. Med. Sup., R. V. Fletcher, M.D.; Asst. Med. Off., John Mills, M.B. Access—Ballinasloe.

BANFF.—*District Asylum*, Ladysbridge. Res. Sup., David Fowler. Visiting Physician, Wm. Ferguson, M.D. Access—Ladysbridge Station.

BARNOLDSWICK (Yorkshire).—*Greta Bank.* Prop., Mrs. Parker. Med. Sup., Dr. Metcalfe. Access—Bentham Station, 2 miles.

BASCHURCH (Shropshire).—*Boreatton Park*, 10 miles from Shrewsbury. Res. Med. Sup., Dr. Sankey. Access—Baschurch Station.
Further information on page 750.

BATH.—*Bailbrook House.* Prop. and Res. Med. Sup., Lionel A. Weatherly, M.D. Access—Bath, 15 minutes' drive.
Further information on page 749.

BECKENHAM (Kent).—*Springcroft.* Prop., Mrs. Stilwell.

BEDFORD.—*Bishopstone House*, Ashburham road (for 10 females). Prop. and Med. Sup., Wm. Simpson Craig, M.D. Access—Bedford.

Springfield House Asylum; 1 hour from London. Res. Med. Sup., D. Bower, M.D. Access—Bedford, 1½ mile.

BELFAST.—*Belfast District Lunatic Asylum.* Res. Med. Sup., A. S. Merrick, M.D.

BEVERLEY.—*East Riding County Asylum.* Res. Med. Sup., M. D. Macleod, M.B. Access—Beverley Station, 2 miles.

BIRMINGHAM.—*Birmingham City Asylum*, Winson Green. Res. Med. Sup., E. B. Whitcombe. Access—Winson Green, ½ mile, Soho, ¼ mile.

BODMIN.—*Cornwall County Asylum.* Med. Sup., Dr. R. Adams.

BOX (Wilts).—*Kingsdown House*, 5 miles from Bath. Res. Med. Sup., Dr. H. C. MacBryan. Access—Box.
Further information on page 751.

BRENTWOOD.—*Essex County Asylum.* Med. Sup., Dr. G. Amsden.

BRIDGEND.—*Glamorgan County Asylum.* Res. Med. Sup., H. T. Pringle, M.D. Access—Bridgend, 1½ miles.

BRISTOL.—*Brislington House*, 2½ miles from Bristol. Res. Med. Sups., Drs. C. H. and B. B. Fox.

City and County Asylum. Res. Med. Sup., Harry A. Benham, M.D. Clerk, Arthur Orme. Access—Fishponds Station, 1 mile.

Northwoods House, Winterbourne, 7 miles from Bristol. Props., Reginald Eager, M.D., and T. G. Seymour. Access—Cab from Bristol, or from Fishponds, Yate, or Patchway Stations.
Further information on page 756.

BROMSGROVE.—*Birmingham City Asylum*, Rubery Hill, near Bromsgrove. Res. Med. Sup., A. C. Suffern, M.D. Access—Rubery Station.

BURGESS HILL.—*St. George's Retreat*, Ditchling. Res. Med. Off., Dr. John A. Cones. Access—Burgess Hill Station.

BUXTON.—*Wye House.* Res. Phys., F. K. Dickson, F.R.C.P. Access—Buxton.

CAMBRIDGE.—*County Asylum*, Fulbourn. Res. Med. Sup., E. C. Rogers, M.R.C.S. Access—Cambridge, 3 miles.

CANE HILL, Purley (Surrey).—*London County Asylum.* Res. Med. Sup., Dr. J. M. Moody. Access—Coulsdon Station.

CARLISLE.—*County Asylum.* Res. Med. Sup., J. A. Campbell, M.D. Access—Carlisle, 3 miles.

CARLOW.—*District Asylum.* Res. Med. Sup., Dr. T. P. O'Meara.

CARMARTHEN.—*Joint Counties Asylum.* Med. Sup., G. J. Hearder, M.D. Access—Carmarthen, 2 miles.

CHARTHAM (Near Canterbury).—*Kent County Asylum.* Res. Med. Sup., G. C. FitzGerald, M.D. Access—Chartham Station, 1 mile.

CHEADLE.—*Manchester Royal Lunatic Hospital.* Res. Med. Sup., G. W. Mould, M.R.C.S.

CHESTER.—*Cheshire County Asylum.* Med. Sup., J. H. Davidson, M.D.

CHURCH STRETTON.—*Stretton House*, Shropshire, (for gentlemen). Med. Sup., Dr. H. Barnett. Access—Church Stretton Station, 10 minutes' walk. *Further information on page* 747.

The Grove House (for ladies). Res. Prop., Mrs. McLintock. Med. Sup., Horatio Barnett, M.A., M.B. *Further information on page* 752.

COLCHESTER.—*Eastern Counties Idiot Asylum.* Res. Med. Attend., G. Sichel, M.R.C.S. Eng., L.R.C.P. Lond.; Res. Sup. and Sec., John J. C. Turner. Payment cases received from all parts. Election cases only from Eastern Counties.

CORK.—*District Asylum.* Accommodation for 1,340 patients. Res. Med. Sup., Oscar Woods, M.D. Access—Cork, 1 mile.

Lindville. Med. Prop., Dr. J. Osborne.

CUPAR (Fifeshire).—*Fife and Kinross District Asylum.* Med. Sup., A. R. Turnbull, M.B.

DARLINGTON (Durham).—*Dinsdale Park.* Res. Med. Sup., J. W. Eastwood, M.D., M.R.C.P., Lond.

DARTFORD.—*City of London Asylum*, Stone. Res. Med. Sup., Dr. E. W. White. Access—S.E.R., Dartford, 1 mile.

DENBIGH (North Wales).—*North Wales Counties Lunatic Asylum.* Med. Sup., Dr. Llewelyn F. Cox. Access—Denbigh, 1 mile.

DERBY.—*Borough Asylum*, Rowditch. Res. Med. Sup., Dr. Macphail. Access—Great Northern Station, 1 mile; Mid., 2 miles.

County Asylum, Mickleover. Res. Med. Sup., Dr. Lindsay. Access—Derby, 5 miles, Mickleover, 2 miles.

DEVIZES.—*Wilts County Asylum.* Res. Med. Sup., John Ireland Bowes, M.R.C.S. Access—Devizes, 1 mile.

DORCHESTER.—*Dorset County Asylum.* Med. Sup., P. W. MacDonald, M.D. Access—Dorchester, 3 miles.

DOWNPATRICK.—*District Asylum.* Res. Med. Sup., M. J. Nolan, L.R.C.S.,I.

DRUMCONDRA (Co. Dublin).—*Hartfield Retreat.* Med. Prop., Dr Lynch. Vis. Phys. Dr. Matthew Burke Savage. Access—Dublin, 2 miles.

Highfield (for ladies). *Hampstead* (for gentlemen). Med. Prop., John Eustace, M.D. *Further information on page* 750.

DUBLIN.—*Bloomfield Retreat*, Donnybrook Road.

Farnham House and Maryville, 3 miles from Dublin (for 56 patients, both sexes). Prop. and Res. Med. Sup., A. Patton, M.B. Access—Cab from Dublin.

House of St. John of God, Stillorgan. Vis. Phys. Dr. McEvoy. Access—Stillorgan Station, ¼ mile. From Dublin 5 miles.

Richmond District Asylum. Res. Med. Sup., Dr. C. Norman.

Woodbine Lodge, Bathfarnam, 6 miles (ladies). Prop., Mrs. Hayes.

DUDLEY (Stafford).—*Ashwood House*, Kingswinford, Props., Drs. Peacock & Pietersen. Access—Stourbridge Junction, 3 miles, or Dudley Station, 4 miles.

DUMFRIES.—*Crichton Royal Institution.* Med. Sup., James Rutherford, M.D., F.R.C.P., E., etc. Access—Dumfries, 1 mile.

DUNDEE.—*Royal Asylum*, West Green. Res. Med. Sup., James Rorie, M.D. Access—Dundee, 3 miles ; Liff, 1½ miles.

DURHAM.—*County Asylum*, near Durham. Res. Med. Sup., Robert Smith, M.D. Access—Sedgefield Station, 3 miles, thence by 'Bus.

EARLSWOOD.—*Asylum for Idiots.* Res. Med. Sup., Dr. Lloyd Francis, M.A. Males 400, females 200. Admission by election or payment of 50 to 200 guineas per annum. Apply to Sec., 36, King William Street, London Bridge, E.C. Access—Earlswood Station, close to the Asylum ; Red Hill Junction, 1½ miles. Open for inspection Tuesdays between 11 and 5 o'clock. *Further information on page* 752.

EDINBURGH.—*Bilston Lodge*, Loanhead, Midlothian. Res. Med. Supt., John Keay, M.D., F.R.C.P., E. Access—Loanhead Station, North British Railway, 10 minutes' walk.

Mavisbank House, Polton, Midlothian. Res. Med. Sup., John Keay, M.D., F.R.C.P., E. Access—Polton Station, North British Railway, 5 minutes' walk.

Midlothian and Peebles District Asylum. Res. Med. Sup., R. B. Mitchell, M.D. Access—Rosslynlee Station, 1 mile.

Mollendo House, Musselburgh. Prop., P. Mackenzie. Cons. Phys., Thos. R. Scott, M.D. Access—Musselburgh Stat., 10 minutes' walk.

Royal Edinburgh Asylum, Morningside. Res. Phys. Sup., T. S. Clouston, M.D., F.R.C.P., E. Access—Edinburgh, 1½ miles.

Saughton Hall. Res. Med. Sup. and Prop., Dr. John Batty Tuke, M.D., F.R.C.P., E. Access—Gorgie Station, 15 minutes.

ELGIN.—*District Asylum.* Med. Sup., J. W. N. Mackay, M.D.

ENNIS.—*District Asylum.* Res. Med. Sup., Richard Phillips Gelston, L.R.C.S., I., L.R.C.P., I. Access—Ennis Station, 1¾ miles.

ENNISCORTHY (Co. Wexford).—*District Lunatic Asylum.* Res. Med. Sup., Thomas Drapes, M.B. Access—Enniscorthy, 1 mile.

EPSOM (Surrey).—*Church Street* (for 14 ladies). Res. Med. Sup., Dr. W. Clement Daniel. Access—Epsom Station, 5 minutes' walk.

Further information on page 757.

EXETER.—*City Asylum*, Heavitree. Res. Med. Sup., R. L. Rutherford, M.D. Access—Exeter, L. and S.W.R., 3 miles; G.W.R., 4 miles.

Court Hall, Kenton. Prop., Mr. Mules. Access—Starcross, 1 mile.

Devon County Asylum, Exminster. Med. Sup., G. Symes Saunders, M.D. Access—Exminster Station, 1 mile; Exeter, 4 miles.

Wonford House (Hospital for the Insane). Res. Med. Sup., P. Maury Deas, M.B., M.S. Lond. Access—Exeter Stat. (Queen St.) 1½ miles; (St. David's), 2 miles. *Further information on page* 754.

FAIRFORD (Gloucestershire).—*Fairford Retreat.* Res. Med. Prop., Daniel Iles, M.R.C.S. Access—Fairford Station.

GATESHEAD.—*Dunston Lodge Asylum*, Newcastle and Gateshead. Prop., Mr. W. Garbutt. Access—Newcastle-on-Tyne Station, 3 miles.

GLASGOW.—*District Asylum.* Res. Med. Sup., A. C. Clark, M.D. Access—Bothwell and Fallside Stations, ½ mile.

Royal Asylum, Gartnavel. Res. Phy. Sup., D. Yellowlees, M.D., LL.D.

GLOUCESTER.—*Barnwood House.* Res. Med. Sup., J. G. Soutar, M.B., C.M. Access—Gloucester, 2 miles.

Further information on page 754.

Gloucester County Lunatic Asylums, Wotton and Barnwood, Gloucester. Res. Med. Sup., F. Hurst Craddock, M.A. Oxon, M.R.C.S. Access—Gloucester Station, 1 mile.

GOUDHURST (Kent).—*Tattlebury House* (for 6 males and 2 females). Res. Med. Sup., Dr. J. S. Newington.

GREAT YARMOUTH.—*Royal Naval Hospital.* Dr. Thomas Browne, R.N., Fleet Surgeon in charge. Access—Great Yarmouth Station, ½ mile. For Naval patients only, admitted by Admiralty order.

HADDINGTON.—*District Asylum*, 17 miles from Edinburgh. Med. Sup., J. Bruce-Ronaldson, F.R.C.S., E., etc. Access—Haddington Station, 19 minutes' walk.

HARPENDEN (Herts.)—*Harpenden Hall*, 4 miles from St. Alban's (for 13 ladies). Prop. and Res. Med. Sup., A. Maclean, L.R.C.S. Ed., L.S.A. Lond. Access—Harpenden Station.

Further information on page 751.

HATTON (near Warwick).—*County Asylum.* Res. Med. Sup., Alfred Miller, M.B. Access—Hatton Station, 2 miles; Warwick Station, 3 miles.

HAYWARD'S HEATH.—*Sussex County Asylum.* Res. Med. Sup., C. E. Saunders, M.D. Access—Hayward's Heath Station, 1½ miles.

HENLEY-IN-ARDEN (Warwickshire).—*Glendossil* (for both sexes). Res. Prop., Dr. S. H. Agar. Access—Great Western Railway.

HEREFORD.—*County and City Asylum.* Med. Sup., T. A. Chapman, M.D.

HITCHIN (Herts), near.—*Three Counties Asylum.* Res. Med. Sup., E. Swain, L.R.C.P. Access—Three Counties Station, 1 mile.

HULL.—*Borough Asylum.* Med. Sup., J. Merson, M.D. Access—Willerby Station, 1 mile.

Craven Street Retreat, Sculcoates. Prop., J. Brown. Access—Hull, 1 mile.

INVERNESS.—*District Asylum.* Med. Sup., J. C. Mackenzie, M.B.; Asst. Med. Off. R. H. Watson, M.A., M.B. Access—Inverness, 2½ mls.

IPSWICH.—*Borough Asylum.* Med. Sup., Dr. E. L. Rowe. Access—Ipswich, 2 miles.

ISLE OF MAN.—*Lunatic Asylum*, Union Mills. Med. Sup., W. Richardson, M.D. Access—Douglas, 3 miles.

ISLEWORTH (Middlesex).—*Wyke House.* Res. Prop., Dr. F. Murchison. Access—Isleworth, Brentford, Osterley Stat., 1 mile.

IVYBRIDGE (Blackadon).—*Borough Asylum.* Res. Med. Sup., Dr. A. N. Davis. Acc.—Kingsbridge Rd., G.W. 1 mile, Ivybridge 2 miles.

JERSEY.—*The Grove.* Prop., Dr. Francis Neel Gaudin, M.P.C., M.R.C.S. Eng. Res. Med. Sup., Chas. Caldecott, M.B., B.Sc. Lond., M.R.C.S. 2½ miles from St. Heliers, 2 from St. Aubin's. Access—G.W.R., *via* Weymouth, 4½ hours rail from London, and 5 hours sea passage; per L. and S.W.R., *via* Southampton, 2 hours rail and 8 hours sea passage.

Further information on page 748.

KILKENNY.—*District Asylum.* Res. Med. Sup., Dr. Wm. Z. Myles.

KILLARNEY.—*District Asylum.* Res. Med. Sup., Dr. L. T. Griffin.

KINGSTON-ON-THAMES.—*Canbury House.* Prop., W. H. Roots, M.R.C.S.

KNOWLE (near Fareham).—*County Asylum.* Med. Sup., T. B. Worthington, M.D.

LANCASTER.—*County Asylum.* Res. Med. Sup., David M. Cassidy, M.D., D.Sc. Access—Lancaster Station.

LEEDS (near Menston). *West Riding Asylum.* Res. Med. Sup., Dr. McDowall. Access—Guiseley Station.

LEICESTER.—*Borough Asylum.* Res. Med. Sup., J. E. M. Finch, M.D. Access—Humberstone G.N.R. ½ mile.

Leicestershire and Rutland Asylum. Res. Med. Sup., Dr. W. H. Higgins.

LETTERKENNY and LONDONDERRY.—*Donegal District Asylum.* Res. Med. Sup., Edward E. Moore, M.D. Access—Letterkenny and Lough Swilley Railway, ½ mile.

LEYTON (Essex).—*The Great House.* Prop., Mrs. Davey.

LICHFIELD.—*County Lunatic Asylum*, Burntwood, near Lichfield. Res. Med. Sup., James Beveridge Spence, M.D. Access—Lichfield City Station, 3½ miles; Trent Valley Station, 4½ miles; Hammerwich, 1½ mile.

LIMERICK.—*District Asylum.* Res. Med. Sup., Dr. E. D. O'Neill.

LINCOLN.—*County Asylum*, Bracebridge. Med. Sup., J. W. Marsh, M.R.C.S. Access—2½ miles from railway station.

The Lawn. Res. Med. Sup., Arthur P. Russell, M.B. Access—Lincoln Station, 1 mile. *Further information on page* 752.

LIVERPOOL.—*Shaftesbury House.* Near Liverpool and Southport. Res. Med. Sup., Stanley A. Gill, B.A., M.D., M.R.C.P.Lond. Access—Formby Station, ¼ mile distant. *Further information on page* 746.

Tue Brook Villa, 3 miles from Liverpool. Res. Med. Sup., Geo. Duffus, M.B. (For 52 males and females.) Access—Tue Brook Stat.

LONDON.—*Bethlem Royal Hospital*, St. George's Road, London, S.E. Res. Med. Sup., R. Percy Smith, M.D., F.R.C.P.
Further information on page 753.

Bethnal House, Cambridge Road, N.E. Res. Med. Sup., J. Kennedy. Will, M.D. Access—Railway Station near East London Museum.

Brooke House, Clapton. Props., Mr. H. T. Monro and Dr. J. O. Adams; Res. Med. Sup., Dr. J. O. Adams. Access—Clapton Station.

Camberwell House, S.E. Prop., J. H. Paul, M.D. Res. Med. Sup., Frank Schofield, M.D.

Chiswick House, Chiswick, and 37, Albemarle St., W. Res. Lics., T. Seymour Tuke, M.A., M.B., M.R.C.S., and C. M. Tuke, M.R.C.S. Access—Chiswick Station, ¾ mile ; Turnham Green Station, ⅓ mile.

County Asylum, Colney Hatch, N. Med. Sup., W. J. Seward, M.B.

Featherstone Hall, Southall. Med. Lic., Miss H. E. Dixon. Access —Southall Station, 5 minutes' walk.

Flower House, Catford Bridge, S.E. Res. Med. Sup., C. A. Mercier, M.B. Access—C. and D. Rly., Beckenham Hill, 5 minutes' walk.

Further information on page 755.

Goudhurst, Stanley Road, Teddington. Med. Sup., Dr. R. A. Clarke.

Grove Hall, Bow (both sexes). Med. Lics., Mr. Byas and Dr. Mickle. Access—Bow Road and Bow Stations, ⅛ mile.

Halliford House, Sunbury-on-Thames, S.W. Res. Med. Sup., W. J. H. Haslett. Access—Sunbury Station, 1¼ mile.

Hayes, Wood End House (ladies). Uxbridge, 3 miles, London, 12 miles. Med. Lic., Dr. H. Stilwell. Access—Hayes Station, 1 mile.

Hayes Park, Hayes, Middlesex, near Uxbridge. Res. Med. Sup., H. F. Winslow, M.D. Access—Hayes Station, 2 miles.

Further information on page 756.

Hendon Grove Asylum, Hendon, Middlesex. Res. Med. Lic., H. Hicks, M.D. Access—By Mid. Rly., Hendon Station, ½ mile, or 'Bus from Swiss Cottage, St. John's Wood, N.W.

Homelea, Hammersmith, W. Prop., Mrs. Buck.

Hoxton House, London, N. Res. Med. Sup., John F. Woods. Access—Shoreditch Station, two minutes' walk ; Liverpool Street Station, ten minutes' walk.

London County Asylum, Hanwell, W. Res. Med. Sup., R. R. Alexander, M.D.

Middlesex County Asylum, Banstead, S.E. Res. Med. Sup. T. C. Shaw, M.D. Access—Belmont Stat., ½ mile ; Sutton Stat., 1½ mile.

Middlesex County Asylum, Tooting, S.W. Med. Sup., H. G. Hill, M.R.C.S. Access—Wandsworth Common Station, 1 mile.

Moorcroft House, Hillingdon (males). Uxbridge, 2 miles, London, 13 miles. Med. Lic., Dr. Stilwell. Access—West Drayton Stat., 2 miles.

Munster House, Fulham. Props., G. F. Blandford, M.D. and C. F. Williams.

Newlands House, Tooting, Bec Road, S.W. Prop., Dr. H. Sutherland. Res. Med. Supt., E. T. Hall, M.R.C.S.

Northumberland House, Green Lanes, N. Prop., A. H. Stocker, M.D. Access—Finsbury Park Station.

Otto House, 47, North End Road, Hammersmith, W. Med. Sup., Dr. H. Sutherland. Access—West Kensington Station, ¼ mile.

Peckham House, Peckham, S.E. Prop., Alonzo H. Stocker, M.D. Med. Sup., John Warnock, M.D. Access—Peckham Rye Station, 10 minutes' walk. *Further information on page* 751.

Peterborough House, Fulham. Res. Med. Sup., James Robt. Hill, Access—Parsons' Green or Chelsea Station, 5 minutes' walk.

Royal Indian Asylum, Ealing, W. Res. Med. Sup., Thos. B. Christie, M.D. Access—Ealing Station, 1 mile; Ealing Common Stat., ½ mile.

Silverton House, Peckham Rye. Prop., Mrs. A. G. Preston.

St. Luke's Hospital, Old Street, E.C. Med. Sup., G. Mickley, M.B.

Sutherland House, Surbiton, nr. Kingston-on-Thames (ladies). Res. Med. Sups., Robt. Collum, M.D., M.R.C.P., Lond., and A. T. Collum, L.R.C.P., M.R.C.P., Lond., F.R.C.S., Eng. Access—Surbiton, ¼ mile.

The Huguenots, East Hill, Wandsworth, S.W. (ladies). Prop., Miss Leech. Access—Clapham Junction Station.

The Priory, Roehampton, S.W., near Richmond. Res. Med. Sup., James Chambers, M.D. Access—Barnes Station, 8 minutes' walk.

The Shrubbery, Southall (females). Prop., Miss H. J. Rosser. Access—Southall Station, ¼ mile.

Vine Cottage, Norwood Green, Southall. Prop., Mrs. Oliver. Med. Sup., Dr. Thornton. Access—Southall Station, 1 mile.

LONDONDERRY.—*District Asylum.* Res. Med. Sup., Dr. Hetherington.

MACCLESFIELD.—*Parkside Asylum.* Res. Med. Sup., T. Steele Sheldon, M.B. Lond. Access—Macclesfield Station, 1 mile.

MAIDSTONE.—*Kent County Asylum.* Res. Med. Sup., F. Pritchard Davies, M.D. Access—Maidstone Station, 1½ miles.

West Malling Place (for ladies). *Castle House* and *Winthies Cottage* (for gentlemen). Res. Med. Sup., Dr. James Adam. Access—Malling Station, 1 mile.

MARKET LAVINGTON (Wilts).—*Fiddington House.* Prop. and Res. Med. Sup., C. Hitchcock, M.D. Access—Devizes Station, 6 miles. *Further information on page* 753.

MELROSE, N.B.—*Roxburgh District Asylum.* Res. Med. Sup., J. C. Johnstone, M.D. Access—Melrose, 1 mile.

MELTON.—*Suffolk County Asylum*, Melton, near Woodbridge. Res. Phys. and Sup., Wilson Eager, L.R.C.P. Access—Melton Station, 1¼ mile; Woodbridge Station, 2¼ miles.

MONAGHAN (Ireland).—*District Asylum*, Res. Med. Sup., Dr Edward Taylor. Access—Monaghan, ¼ mile.

MONTROSE, N.B.—*Montrose Royal Lunatic Asylum.* Phys. Sup., J. C. Howden, M.D. Access—Hillside Station, ¼ mile; Dubton Station, 1 mile.

MORPETH.—*Northumberland County Asylum.* Res. Med. Sup., Thos. W. McDowall, M.D. Access—Morpeth Station, 1 mile, by 'Bus.

MOULSFORD (Berks).—*Berks County Asylum.* Res. Med. Sup., J. W. A. Murdoch, M.B. Access—Moulsford, 1 mile.

MULLINGAR.—*District Asylum.* Res. Med. Sup., Dr. A. D. O. Finegan.

NELSON (Lanc.).—*Marsden Hall* (for both sexes). Res. Prop., Mrs. Bennett; Med. Sup., Dr. A. P. Millar. Access—Nelson or Colne Stations.

NEWCASTLE-ON-TYNE.—*City County Asylum*, Gosforth. Res Med. Sup., Jas. Thomas Callcott, M.D. Access—Newcastle, 1 mile.

NEWTON-LE-WILLOWS.—*Haydock Lodge.* Med. Prop., E. H. Beaman, M.R.C.S., E.; Res. Med. Sup., Dr. C. T. Street. Access—Newton-le-Willows Station, 2 miles. *Further information on page* 755.

St. Andrew's Hospital. Med. Sup., J. Bayley, M.R.C.S.

NORTHAMPTON.—*Berrywood Asylum.* Res. Med. Sup., Dr. R. Greene. Access—Castle Station, 2 miles: Midland Station, 2½ miles.

NORWICH.—*Heigham Hall.* Licensees, Mrs. Watson and Mr. Alfred Mottram. Res. Med. Sup., Thos. J. Compton, M.D.

Norfolk County Asylum, Thorpe. 800 Beds. Res. Med. Sup., David G. Thomson, M.D. Access—Norwich (Thorpe) Station, 2½ miles.

Norwich City Asylum, Hellesdon. Res. Phys. and Sup., Dr. Wm. Harris, F.R.C.S.; Hon. Con. Phys., Sir Frederic Bateman, F.R.C.P.; Res. Asst. Med. Officer, Dr. A. Sykes. Acc.—Thorpe, cab fare 4/-; Victoria Stat., cab fare 3/6; City Stat., fare 3/-; Hellesdon Stat. 1 mile.

The Bethel Hospital for the Insane. Res. Med. Sup., J. Fielding, M.D.; Con. Phys., Sir Frederic Bateman, F.R.C.P. Access—Thorpe Station, 1 mile.

NOTTINGHAM.—*Borough Asylum*, Mapperley Hill. Med. Sup., E. Powell, M.R.C.S.

Notts County Asylum, Snenton. Res. Med. Sup., Dr. A. Aplin. Access—Mid. and Gt. North. Station, about 15 minutes' walk.

The Coppice. Res. Med. Sup., W. B. Tate, M.D. Access—Mid. and Gt. North. Station, 2½ miles.

OMAGH.—*District Asylum.* Res. Med. Sup., Geo. E. Carre, M.B. Access—Omagh Station, 2 miles.

OXFORD.—*Oxford County Asylum.* Res. Med. Sup., R. H. H. Sankey, M.R.C.S. Access—Littlemore Station, G.W.R.

Warneford Asylum, Oxford 1½ mile (for private patients only). Res. Med. Sup., J. Bywater Ward, M.D. Access—Oxford Station, 2¼ miles. *Further information on page* 753.

PERTH.—*District Asylum*, Murthly. Med. Sup., Geo. M. Robertson, F.R.C.P., Edin.

James Murray's Royal Asylum (for private patients only), Perth Access—Perth, under 2 miles. *Further information on page* 749.

PLYMOUTH.—*Plympton House*, Plympton, S. Devon. Res. Med. Sup., Charles Aldridge, M.D. Access—Plympton, 1 mile; Marsh and Kincarrathie, Scotland. Res. Phys. and Sup., Dr. Urquhart. Mills, 2 miles. *Further information on page* 755.

PORTSMOUTH.—*Borough Asylum*, Res. Med. Sup., W. C. Bland, M.R.C.S. Access—Fratton Station, 2 miles.

PRESTWICH (near Manchester).—*County Asylum.* Res. Med. Sup., Henry R. Ley, M.R.C.S.

RAINHILL (near Prescot).—*County Asylum.* Med. Sup., J. Wiglesworth, M.D.

ROTHERHAM (Yorkshire).—*The Grange*, near Rotherham, 5 miles from Sheffield (for ladies). Res. Med. Prop., C. Clapham, M.D. Access—Grange Lane Station, ¼ mile.

SALISBURY.—*Fisherton House Asylum.* Med. Sup., William Corbin Finch, M.D. Access—Salisbury Stat., 5 minutes' walk.
Further information on page 745.

Laverstock House. Prop., J. Haynes; Med. Sup., Hy. J. Manning, M.R.C.S.

SHREWSBURY.—*Salop and Montgomery Counties Lunatic Asylum.* Res. Med. Sup., Arthur Strange, M.D. Access—Shrewsbury Station, 2½ miles.

SLIGO.—*District Asylum.* Res. Med. Sup., Dr. Joseph Petit. Access—Midland, Great Western and Sligo, Leitrim and Northern Counties Railways, Sligo Station, 1½ miles.

STAFFORD.—*County Lunatic Asylum.* Res. Med. Sup., Dr. J. W. Stirling Christie. Access—Stafford Station, about 1 mile.

Institution for the Insane. Coton Hill, Med. Sup., Dr. R. W. Hewson.

STARCROSS (near Exeter).—*Western Counties Idiot Asylum.* Res. Sup., William Locke. Access—Starcross Station, 5 minutes' walk.

STIRLING.—*District Asylum.* Med. Sup., Dr. MacPherson.

ST. LEONARDS-ON-SEA.—*Ashbrook Hall*, Hollington (for ladies). Res. Prop., Mrs. Letitia A. Hitch. Access—Station, Warrior Square, St. Leonards-on-Sea, half-an-hour's walk.

STONE (near Aylesbury).—*Bucks County Asylum.* Res. Med. Sup., J. Humphry, M.R.C.S. Access—Stone, 3 miles from Aylesbury.

SUTTON (Surrey).—*Chalk Pit House.* Prop., F. D. Atkins, M.R.C.S

TAMWORTH (Staffs.).—*The Moat House* (for ladies). Res. Props., J. F. Woody, M.R.C.S., and E. Hollins, M.A. Med. Attendants, J. Holmes Joy, M.D., and S. H. Harrison, L.R.C.P., Lond.

TICEHURST (Sussex).—*Asylum.* Props., H. F. H. Newington, M.R.C.P., and A. S. L. Newington, M.B.

TONBRIDGE.—*Redlands.* Res. Phys., W. M. Harmer, F.R.C.P. Access—Tonbridge Station, 2½ miles.

VIRGINIA WATER.—*Holloway Sanatorium, Hospital for the Insane.* St. Ann's Heath, Virginia Water. Res. Med. Sup., Sutherland Rees Philipps, M.D. Med. Off., E. Noble Edwards, Esq. Asst. Med. Officers, A. N. Little, M.B., W. D. Moore, M.D., Emily L. Dove, M.B., A. H. Madge, L.R.C.P. Chaplain, Rev. T. W. Armstrong, M.A. Treas. John Ashby, Esq., Staines. Access—Virginia Water Station, 3 minutes' walk. Seaside Branch, Hove Villa, Dyke Road, Brighton.

WADSLEY (near Sheffield).—*West Riding of Yorkshire Asylum.* Res. Med. Sup., W. S. Kay, M.D. Access—Wadley Bridge, 2 miles.

WAKEFIELD.—*West Riding Asylum.* Res. Med. Sup., W. Bevan Lewis, L.R.C.P., Lond. Access—Kirkgate and Westgate Stat., 1 mile.

WARWICK.—*Midland Counties Idiot Asylum.* Knowle. Sup. and Sec., W. G. Blatch; Hon. Med. Sup., J. H. Kimbell, F.R.C.S.; Med. Officer, R. H. Foster, M.R.C.S. Access—Knowle Station, ½ mile.

WATERFORD.—*District Asylum.* Res. Med. Sup., Dr. R. Atkins.

St. Patrick's Institution, Belmont Park. Sup., Br. W. J. Becker. Med. Sup., Dr. W. R. Connolly.

WELLS.—*Somerset and Bath Asylum*, Wells, Somerset. Res. Med. Sup., A. Law Wade, M.D. Access—Wells, 2 miles; Masbury, 2½ miles.

WHITCHURCH (Salop).—*St. Mary's House* (ladies only). Med. Sup., S. T. Gwynn, M.D. Access—Whitchurch Station, 1½ miles.

WHITEFIELD (near Manchester).—*Overdale.* Res. Med. Sup., James Holmes, M.D. Access—Prestwich and Whitefield Stations, 1½ miles each; Molyneux Brow, ¼ mile.

WHITTINGHAM (near Preston).—*County Asylum.* Res. Med. Sup., J. A. Wallis, M.D. Access—Grimsargh Station.

WINCHELSEA (Sussex).—*Periteau House*, near Hastings (ladies). Proprietress, Mrs. R. V. Skinner. Res. Med. Sup., E. W. Skinner, M.D. Access—Winchelsea Station.

WOKING.—*Surrey County Asylum*, Brookwood. Res. Med. Sup., Dr. J. E. Barton. Access—Brookwood Station, 1¼ miles.

WORCESTER.—*County and City Lunatic Asylum*, Powick. Res. Med. Sup., E. Marriott Cooke, M.B. Access—Worcester Stat., 4½ miles.

YORK.—*Lawrence House* (for 8 males and 14 females). Prop. and Med. Sup., G. I. Swanson, M.D. Access—York.

North Riding of Yorkshire Asylum. Res. Med. Sup., J. Tregelles Hingston. Access—York, 2 miles.

The Friends' Retreat. Res. Med. Sup., Bedford Pierce, M.D., M.R.C.P., Lond.

York Lunatic Asylum, Bootham. Res. Med. Sup., C. K. Hitchcock, M.D., M.A. Cantab. Access—York, 1 mile.

TRAINING INSTITUTIONS.

CHILCOMPTON (near Bath).—*Downside Lodge.* Med. Sup., Alex. Waugh, M.D. Access—Chilcompton Station, about ¼ mile.

Further information on page 757.

DUNDEE.—*Baldovan Asylum.* For the Training and Education of Imbecile Children. Matron, Miss Butler. Vis. Phys., Dr. Greig.

KINGSTON-ON-THAMES.—Normansfield Training Institution (for backward and feeble-minded children). Med. Sup., Dr. Langdon Down. For 100 male and 60 female patients of the upper class. Access—Hampton Wick Station, 5 minutes' walk.

LANCASTER.—*Royal Albert Asylum* (for idiots and imbeciles of the Northern counties. For 600 patients). Res. Med. Sup., G. E. Shuttleworth, B.A., M.D.; Sec., James Diggens. Admission by election, or at various rates of payment. Access—Lancaster Station, 1 mile.

Brunton House, a Home for special Private Pupils under training at the Royal Albert Asylum. Private Pupils received from all parts of the country. Sec., James Diggens. Access as above.

MAIDSTONE (Kent).—*Bearsted House.* School and Home for the Feeble-minded. Res. Sup. and Prop., G. T. A'Vard. Access—Bearsted Station, Chatham and Dover Railway, 5 minutes' walk.

RICHMOND (Surrey).—*Ancaster House.* Richmond Hill. For mentally-feeble children (*not* idiots). Res. Med. Sup., G. E. Shuttleworth, B.A., M.D. Acc.—Richmond Stat., L. & S.W.R., Metropolitan, Dist. & Nor. Lond. Rail., 1 mile. *Further information on page* 758.

SIDCUP (Kent).—"*Two Elms.*" Training Institution for backward and feeble-minded patients. Med. Sup., Dr. Fletcher Beach. Access—Sidcup Station. South Eastern Railway, 15 minutes' walk.

Homes for Inebriates.

Formalities necessary before the reception of a patient (under the Inebriates' Acts of 1879 and 1888) into the Homes marked with an asterisk.

The patient must sign a Form expressing a wish to enter the retreat, before two magistrates (who need not be Magistrates for the County in which the signature takes place). This can be done at the private residence of the patient, or on arrival at the retreat. Two friends of the patient must also sign a statutory declaration that they consider the patient an "Inebriate" within the meaning of the Acts.

BRISTOL.—*Dunmurry*, Sneyd Park, near Clifton. Res. Med. Prop., Dr. James Stewart, B.A., F.R.C.P. Ed. Access—Bristol or Clifton Down Station, 1¼ mile from the latter.

Kingswood Park. Res. Med. Sup., R. W. Brimacombe, L.R.C.P., Lond.; M.R.C.S., Eng. Access—Mangotsfield Station, 2 miles; Bristol Station, 4 miles; Bath Station, 8 miles.

CROYDON.—*St. Raphael's*, Woodside. Apply Rev. A. Tooth Access—Woodside Stat., Croydon. *Further information on page* 761

EARL'S COLNE (Essex).—*Buxton House* (for ladies). Prop., Miss Pudney; Med. Attendant, J. Taylor, M.R.C.S.

LEICESTER.—*Tower House* (for ladies). Prop., Mrs. Theobald; Med. Attendant, Dr. J. St. T. Clarke. Consulting Phys., Sir Benj. Ward Richardson. Access—Leicester Station, 1½ miles.

MANCHESTER (near).—*The Grove*, Fallowfield.

MIDDLESEX.—**High Shot House*, Twickenham, S.W. Licensees, Messrs. Branthwaite and Anderson. Access—St. Margaret's Station from Waterloo 300 yards. *Further information on page* 756.

RICKMANSWORTH (Herts).—**Dalrymple Home* (for 20 male patients). Res. Med. Sup., R. Welsh Branthwaite, L.R.C.P. Access—Rickmansworth Station, Metropolitan Rly., ½ mile; L. & N.W. Rly., 1 mile. *Further information on page* 754.

STONEHAVEN (N.B.).—*Elsick House.* Prop., D. Forbes.

SYDENHAM. *British Women's Home.* Hon. Sec., Mrs. Chater. Med. Sup., Dr. Gardiner.

WALSALL.—**Old Park Hall Retreat.* Birmingham, 6 miles. Res. Med. Sup., Fredk. John Gray. Access—Walsall Station, 1¾ mile.

WESTGATE-ON-SEA.—**Tower House Retreat* (for ladies and gentlemen). Principal and Licensee, A. F. Street, M.A., M.D.

Hydropathic Establishments of Great Britain.

We wish to make this list complete, but it is impossible when some Proprietors do not return out letter of enquiry which is *stamped for reply*. This will account for some omissions in the present edition.

ABERDEEN.—*Deeside Hydropathic Establishment*, Heathcot, near Aberdeen.—Res. Med. Sup., Alexander Stewart, M.D., LL.D., F.A.S. Access—Rail to Aberdeen, thence by cab or omnibus. Hydropathic conveyance meets any train when sent for, distance 5 miles.

Further information on page 761.

BASLOW (near Chesterfield). *Baslow Hydropathic Establishment*, near Chatsworth Park, Derbyshire. Res. Med. Sup., E. M. Wrench, F.R.C.S. Access—Rowsley Station, 4½ miles by omnibus.

BATH.—*West of England Hydropathic Establishment*, Limpley Stoke, near Bath. Res. Phys., C. J. Whitby, M.D. Access—Limpley Stoke Station.

BEN RHYDDING.—*Ben Rhydding.* Near Leeds, Bradford, or Harrogate. Phys., Thos. Johnstone, M.D., M.R.C.P. Access—Ben Rhydding Station, a few hundred yards.

BISHOPS-TEIGNTON (near Teignmouth).—*The South Devon Health Resort.* Prop., C. F. Carpenter. Med. Sup., Wm. Dale, M.D. Access—Teignmouth Station, 2½ miles.

BORTH (Cardiganshire).—*Hydropathic Establishment.* Med. Sup., J. Harden Jones, M.R.C.S.

BOURNEMOUTH (Hampshire).—*Bournemouth Hydropathic Establishment.* Res. Prop., Dr. Watson. Access—Bournemouth, East Station, 1 mile; West Station, ¼ mile.

BRIDGE OF ALLAN.—*Bridge of Allan Hydropathic Co.* Manager, J. M'Kay. Access—Bridge of Allan Station, ½ mile.

BRISTOL.—*The Bristol Hydropathic Establishment*, (formerly Bartholomew's Turkish Baths), College Green. Res. Phys., W. J. Spoor, M.B., M.R.C.S.

BUTE.—*Kyles of Bute Hydropathic*, Port Bannantyne. Man., A. Menzies; Med. Sup., Dr. A. J. Hall. Access—Clyde Steamers call daily.

BUXTON.—*Buxton House Hydropathic*, adjoins "The Peak Hydro.' Cons. Phys., S. Hyde, M.D. Distance from Station, 4 minutes.

Buxton Hydropathic and Winter Residence. Prop., Mr. Lomas. Access—Buxton Station, 4 minutes' walk.

The Peak Hydro-Thermal Establishment and Mineral Water Baths. Cons. Phys., S. Hyde, M.D. 4 minutes from Station.

COLWYN BAY (North Wales).—*Colwyn Bay Hydropathic and Winter Residence.* Med. Sup., Dr. W. M. V. Williams. Access—Colwyn Bay Station, 7 minutes' walk.

CORK.—*St. Ann's Hill Hydropathic.* Res. Phys., M. Altdorfer, M.D. Access—Blarney Station, 2½ miles distant; Muskerry Light Ry. from Cork, Station on grounds. *Further information on page 763.*

CRIEFF.—*Strathearn House* (17 miles from Perth). Res. Med. Sups., Thos. H. Meikle, M.D., J.P., and T. Gordon Meikle, M.B., C.M. Access—Crieff Station, 1 mile.

DUNBLANE.—*Dunblane Hydropathic*, Perthshire. Res. Phys. Access—Dunblane Station. *Further information on page 759.*

EDINBURGH.—*Hydropathic.* James Bell, Man. Director. Access—Merchiston Station, 1 mile; Waverley Station, 3 miles.

FARNBOROUGH (Hants).—*The Pine Therapeutic Establishment.* Apply to the Secretary.

FOLKESTONE.—*Capel Lodge.* (Near Folkestone.) Prop., E. Norton, M.D. Access—Folkestone Junction, 2 miles.

Folkestone Bathing Establishment Co., Limited. Access—Shorncliff, Radnor Park, and Junction Stations.

FORRES.—*Cluny Hill Hydropathic.* Res. Man. R. Bond; Vis. Phys., Dr. Leslie H. Milne. Access—Forres Station, 1 mile; Inverness, 24 miles.

GRANGE-OVER-SANDS.—*Hazelwood Hydropathic.* Con. Phys., Dr. Lowther. Access—Carnforth, L. & N.W.R., and thence by Furness Railway. *Further information on page 762.*

HARROGATE (Yorkshire).—*The Cairn Hydropathic.* A. E. Wynn, Manager; Med. Sup., J. Gordon Black, M.D.

The Harrogate Hydropathic Establishment. Phys., Geo. Tennant, M.B.

The Imperial Sanatorium and Hydropathic Establishment, Royal Parade. Res. Med. Officer, J. R. Tunmer, M.R.C.S., E., etc.

HASTINGS (St. Leonard's).—*The Spa Hydropathic Establishment.* Access—Hastings Station, 1 mile.

Metcalfe's Hydropathic Establishment, Wellington Square.

HEXHAM (Northumberland).—*Tynedale Hydropathic.* Prop., F. G. Grant; Med. Sup., Thos. Stainthorpe, M.D. Access—Hexham; Newcastle, 19 miles.

ILKLEY (Yorkshire).—*Craiglands Hydropathic.* Props., Dobson Bros. Med. Sup., Henry Dobson, M.D., C.M.

Ilkley Wells House Hydropathic. Med. Sup., Thos. Scott, M.D. Access—Ilkley Station, ¼ mile.

The Spa Hydropathic. (Near Leeds and Bradford.) Med. Sup., Thos. Johnstone, M.D. Access—Ilkley, Yorks and Mid. Rys.

Troutbeck Hydropathic Establishment and Sanatorium. Res. Med. Sup., Henry Dobson, M.D., C.M. Props., Dobson Bros.

KILMALCOLM (Renfrewshire).—*Hydropathic Establishment.* Manageress, Miss G. Thomson. Access—Greenock, 7 miles, thence by steamer.

LLANDUDNO.—*Hydropathic and Winter Residence.* Res. Med. Sup., H. Thomas, M.D., F.R.M.S. Access—Llandudno Station, 5 minutes.

The Sanatorium. Med. Sups., J. Craig, M.D., and T. L. K. Davies, M.B. Access—Llandudno Station, 10 minutes.

MALVERN.—*Dr. Fergusson's* late *Dr. Rayner's Hydropathic.* Res. Prop., Dr. J. C. Fergusson. Access—Great Malvern Station, ½ mile.

Wyche-side Hydropathic. Res. Phys., Dr. Grindrod. Access—Malvern Wells G. W. Station, ½ mile.

MATLOCK.—*Bridge Hall.* Prop., R. Nicholson. Access—Matlock Bridge Station, 3 minutes' walk.

Clarence Hydropathic. Prop., R. Nicholson. Access—Matlock Bath Station.

Darley Dale Hydropathic. Prop., Wm. Atkin; Med. Sup., Dr. W. Moxon. Access—Matlock Bridge Station, 2 miles; Darley Dale, ¼ mile.

Elm Tree House. Prop., Wm. Bramald. Med. Sup., Dr. Hunter. Access—Matlock Bridge Station, ½ mile.

Roseberry House, Matlock Bank, Matlock Bridge. Med. Sup., Dr. Moxon. Prop., Mr. J. L. Dean. Access—Near Matlock Bridge Station.

Smedley's Hydropathic Establishment, Matlock Bridge. Phys., Wm. B. Hunter, M.D., and W. C. Sharpe, M.B., with a House Phys. Access—Matlock Bridge Station, ½ mile; Omnibus.

Further information on page 762.

MELROSE.—*Waverley Hydropathic.* Con. Phys., Dr. Wade. Access—Melrose Station, 1 mile.

MOFFAT.—*The Moffat Hydropathic.* Prop., J. Farquharson.

PEEBLES.—*Peebles Hydropathic.* Access—Peebles Station, 1 mile.

PITLOCHRY.—*Athole Hydropathic.* Prop., W. Macdonald. Access—Pitlochry Station, 1 mile.

REDCAR (Yorkshire).—Prop., Mrs. Poole; Med. Sup., Dr. W. A. Day. Access—Redcar Station, ¼ mile.

RHYL.—*North Wales Hydropathic.* Phys. Dr. W. Thomas.

SCARBOROUGH—*Hydropathic Establishment*, West Bank. Prop., R. B. D. Wells. Med. Attendant, Dr. Megginson.
Further information on page 763.

SHANDON.—*Shandon Hydropathic.* Med. Sup., Surg.-Major R. D. Reid, M.D. Access—Nor. Brit. Railway & Steamer to Shandon Pier.

SOUTHPORT.—"*Sunnyside*" *Hydropathic.* Phys., Dr. F. A. Ernest Barnardo. Access—Southport Station, ½ mile.
Further information on page 760.

Hydropathic House. Props., Lee & Hardman.

The Southport Limes Hydropathic (51, Bath Street). Phys. and Surg., Dr. A. B. Kenworthy. Access—Chapel Street, Lord Street or Central Stations ¼ mile.

The "Mornington." Prop., James Cowin.
Further information on page 759.

TUNBRIDGE WELLS.—*The Spa.* Phys., Dr. G. L. Pardington. Access—Tunbridge Wells Station, about ½ mile.

ULVERSTON AND BARROW-IN-FURNESS.—*Conishead Priory Hydropathic.* Res. Med. Sup., E. Stechan, M.B. Access—Carnforth or Hellifield Stations.

WATFORD.—*The Hall*, Bushey. Res. Phys., R. J. Banning, M.D., J.P. Access—Bushey Station, 1 mile.

WEMYSS BAY.—*Wemyss Bay Hydropathic.* Med. Sup., Ronald Currie, M.D., C.M. Access—Wemyss Bay Station, *via* Glasgow, ½ mile.

WINDERMERE.—*Windermere Hydropathic*, 9 miles from Kendal. Access—Windermere Station (L. & N. W. R.) about 1 mile. Furness Rly. (Bowness Landing), ¼ mile. Pier on the Lake, about 300 yards.

Private Homes for Invalids.

BOURNEMOUTH.—*Overton Hall*, West Cliff. Res. Prop., Dr. M. Watson.

JEDBURGH.—*Abbey Green.* Res. Prop., Wm. Blair, M.D. Access—N. B. Rly., Jedburgh.
Further information on page 757.

LLANDUDNO.—*Ormeside.* Prop., E. Luke Freer, M.R.C.S. Access—Llandudno Station, ¾ mile

Books of the Year.

A List of the Principal Medical Works and New Editions Published during 1893.

AMBULANCE AND NURSING.

Accidents and Emergencies. By W. Dulles. 4th ed., Revised and Enlarged. Cr. 8vo. *Lewis.* . . . . . *Net* 3/-

Doctor at Home and Nurse's Guide Book. Edit. by G. Black. Illust. Cr. 8vo. (6) . . . . . *red.*, 5/-

First Aid to the Injured: Five Ambulance Lectures. By F. Esmarch. Translated from the German by H.R.H. Princess Christian. 5th ed. 12mo., pp. 116. (23) 2/-

Hospital Nurse, Probationer Nurse, Sister, etc.: How to Become a. By Alice Dannatt. With appendix. 12mo., pp. 140. (72) . 1/6

Hospital Sisters and their Duties. By Eva C. E. Luckes. 3rd ed. Cr. 8vo, pp. viii—204. (71) 2/6

Our Sick and How to Take Care of Them; or, Plain Teaching in Sick Nursing at Home. By Florence Stackpole. Cr. 8vo., pp. 156. (10) 1/6

Surgical Ward Work and Nursing: A Handbook for Junior Students of Medicine, and Nurses. By Alexander Miles. With 199 Illusts. 8vo. pp. 197. (71) 3/6

The Best Thing to Do: First aid in Simple Ailments and Accidents for Travellers and Tourists at Home and Abroad. By G. J. S. Thompson. 2nd ed. 12mo., pp. 50. (72) 1/-

Theory and Practice of Nursing: A Text Book for Nurses. By P. G. Lewis. 5th ed. Profusely Illustrated. Cr. 8vo, pp. 342. (71) 3/6

ANATOMY AND PHYSIOLOGY.

Anatomical Model (Philips's): A Pictorial Representation of the Human Frame and its Organs. With Descriptive Text by Dr. Schmidt. English ed. by William S. Furneaux. Illust. 4to, bds, pp. 16. (68) 2/-

Anatomy: A Plea for Practical Work in. By T. Cooke. 8vo, bds. (13) 1/-

Anatomy of the Peritonæum, The. By F. Dexter. With 38 Illusts. Cr. 8vo, pp. 84. (16) . . . . . *Net* 6/-

Biology; Aids to. By J. W. Williams. Specially prepared to meet the Requirements of Students Reading for the First Examination of the Conjoint Board. 12mo, pp. 136. (3) 2/-

Chemical Physiology: The Essentials of. For the Use of Students. By W. D. Halliburton. With 74 Illusts. 8vo. pp. 178. (13) . 5/-

Dissections Illustrated: A Graphic Handbook for Students of Human Anatomy. By C. G. Brodie. With Plates Drawn and Lithographed by Percy Highley. Part II. The Lower Limb. With 20 Coloured Plates two-thirds natural size, and 6 Diagrams. Roy. 8vo. *Whittaker.* 10/-

Human Anatomy: A Treatise on. Edited by Henry Morris. Roy. 8vo. pp. 1340. Nearly 800 Illusts., many of them in two and three colours. (5) 40/-

Human Body. By J. Marshall. 2 vols. Text and Plates. 8vo. (23) *red.*, 12/6

Human Physiology: An Introduction to. By A. D. Waller. 2nd ed. 8vo, pp. 644. (13) 18/-

Mesosalpinx: The Structures in the. Their Normal and Pathological Anatomy. By J. W. Ballantyne and J. D. Williams. 8vo, pp. 52. (40) 2/6

Physiology: Essentials of. Numerous Illustrations. 3rd ed. Revised and Enlarged by the Addition of a Series of Handsome Plate Illustrations, taken from the Celebrated "Icones Nervorum Capitis" of Arnold. By H. A. Hare. (34) 4/-

Physiology for Junior Students of Medicine. By G. F. Yeo. 3rd ed. Cr. 8vo, pp. 679. (5) 14/-

Practical Anatomy (Heath's): A Manual of Dissections, 8th ed. Edit. by W. Anderson. 329 engravings on Wood. Cr. 8vo, pp. 762. (5) 15/-

Practical Anatomy: Manual of. By D. J. Cunningham. Illust. with Engravings. Vol. I, Upper Limb, Lower Limb, Abdomen. Cr. 8vo, pp. 676. *Pentland.* 12/6

Practical Elementary Biology: A Course of. By John Bidgood. With 226 Illusts. Cr. 8vo, pp. 364. (13) 4/6

Practical Histology: Outlines of. A Manual for Students. By W. Stirling. With 368 Illusts. 2nd. ed. Revised and Enlarged. Cr. 8vo, pp. 426. *Griffin.* 12/6

Quain's Anatomy: Elements of. Edit. by Edward A. Schäfer and George Dancer Thane. 3 vols. Vol. 3, Part I: The Spinal Cord and Brain, by Professor Schäfer. 10th ed. Roy. 8vo, pp. 214. (13) 12/6

Talipes Equino-Varus, or Club Foot: On the Nature and Treatment of. By B. E. Brodhurst. 8vo. (5) 3/6

The Microtomist's Vade-Mecum: A Handbook of Microscopic Anatomy. By A. B. Lee. 3rd ed. 8vo, pp. 512. (5) 14/-

The Physiologist's Note Book: A Summary of the Present State of Physiological Science, for the Use of Students. By Alex. Hill. With 36 Plates, and Blank Pages for MS. Notes. Roy. 8vo, pp. 200. *Griffin.* 12/6

The Physiology of Death from Traumatic Fever. A Study in Abdominal Surgery. By John D. Malcolm. 8vo. (5) 3/6

The Pocket Gray; or, Anatomist's Vade-Mecum. By E. Cotterell. Compiled especially for Students. New ed. 12mo, pp. 260. (3) 3/6

Vertebrate Embryology: A Text Book for Students and Practitioners. By A. Milnes Marshall. 8vo, pp. 624. (23) 21/-

CHEMISTRY.

Alembic Club Reprints, No. 1.—Magnesia Alba, Quicklime: Experiments upon, and other Alkaline Substances. By J. Black. **No. 2.—Atomic Theory**: Foundations of, and other Papers. By J. Dalton, W. H. Wollaston, and T. Thomson. **No. 3.—Air**: Experiments on. By Hon. Henry Cavendish. **No. 4.—Molecular Theory**: Foundations of the. By J. Dalton. . . . . *each, Net* 1/6

Applied Chemistry: A Dictionary of. By T. E. Thorpe. Assisted by Eminent Contributors. 3 vols. Vol 1, (A—Dy). With 236 Illusts. 8vo, pp. 724. £2 2s. Vol. 2, (E—Nu). With 240 Illusts. 8vo, pp. 722. £2 2s. Vol. 3, (O—Z). With 352 Illusts. 8vo, pp. 1058. (13) £3 3s.

Chemical Physics: Wootton's Problems. 2/-

On the Chemistry of the Blood, and other Scientific Papers. By L. C. Wooldridge. Arranged by Victor Horsley and Ernest Starling. With an Introduction by Victor Horsley. 8vo, pp. 360. (9) . . 16 -

Practical Medical and Physiological Chemistry: Manual of. By C. E. Pellew. 8vo. Illust. (34) 16/-

Qualitative Analysis Tables. By W. G. Valentin. Revised by W. R. Hodgkinson. 8th ed. 8vo, pp. 39. (5) 2/6

CHILDREN (Diseases of).

Diagnosis and Treatment of Diseases in Children (Medical): Aids to. By J. McCaw. 12mo, pp. 174. (3). 3/-

Diseases of Children. Arranged in the Form of Questions and Answers. (Kimpton's Students' Manuals.) By W. M. Powell. Cr. 8vo. (34) *Net* 4/-

Orthopædy: A Short Manual of. Part 1: The Deformities and Deficiencies of the Head and Neck. By H. Bigg. 8vo, pp. 84. (5) . 2/6

The Diseases of Childhood (Medical). By H. B. Donkin. 8vo, pp. 444. *Griffin.* 16/-

DENTISTRY.

Diseases and Injuries of the Teeth, Including Pathology and Treatment: A Manual of Practical Dentistry for Students and Practitioners. By M. Smale and J. F. Colyer. 8vo, pp. 428. (13) . . . 15/-

Mechanical Dentistry: A Practical Treatise on. By Joseph Richardson. 6th ed. Revised and edited by George W. Warren. With 600 Illusts. Roy. 8vo. (5) 21/-

Tooth Extraction: A Manual on the Proper Mode of Extracting Teeth. By J. Gorham. 4th ed. 12mo, sd. *Lewis.* 1/6

EAR, THROAT, AND NOSE.

Deafness: Its Prevention and Cure. Adapted for Self Treatment. By "Lennox." Cr. 8vo, pp. 110. (1) 1/6

Diseases and Injuries of the Ear. By Sir W. B. Dalby. 4th ed. Cr. 8vo, pp. 290. (5) 10/6

Diseases of the Ear: A Manual of. By G. P. Field. 4th ed. Illustrated with Coloured Plates and Woodcuts. 8vo, pp. 390. (3) . . 12/6

Diseases of the Ear: A Text-Book on. By J. Gruber. Trans., from the 2nd German ed., and Edit., with Additions by Edward Law and Coleman Jewell. With 165 Illusts., and 79 Coloured Figures on 2 Lithographic Plates. Roy. 8vo, pp. 663. *Lewis.* 28/-

Diseases of the Ear, Nose, and Throat: System of. Edit., by C. H. Burnett. Illust. 2 vols., roy. 8vo. *Lewis.* . . . . *Net* 48/-

Nose and Throat: Diseases of the, Essentials of. By Baldwin Gleason, 2 vols. in 1. Profusely Illustrated. (34) . . . . . *Net* 4/-

Otology: Aids to. By W. R. H. Stewart. 2nd ed. of "Epitome of Ear Diseases." 12mo, pp. 110 (3) 2/-
Suppurative Diseases of the Ear: On the Pathology and Treatment of. The Harveian Lectures. By G. P. Field. 1892-3. 12mo. (3) 2/6
Throat and Nose, and their Diseases, The. By L. Browne. 4th ed. Revised and Enlarged. Roy. 8vo, pp. 710. (3) . . . 21/-

ELECTRICITY, MASSAGE, AND ELECTRO-THERAPEUTICS.

Atlas of Electric Cystoscopy. By E. Burckhardt and E. H. Fenwick. With 34 Coloured Plates. Roy. 8vo, pp. 70. (5) . . . 21/-
Medical Electricity: A Manual of Practical. By D. Turner. 8vo, pp. 330. (3) 7/6
Medical Electricity. By D. D. Stewart and E. S. Lawrence. Cr. 8vo. (34) . . . . . *Net* 4/-
Medical Electricity: Essentials of. By D. D. Stewart, and E. S. Lawrance, 65 Illusts. (34) . . . . . *Net* 4/-
Medical Electricity: What It is and How Does It Cure. By E. S. D'Odiardi. 12mo. (18) 1/-

EYE.

Clinical Use of Prisms and the Decentering of Lenses, The. (Ophthalmological Prisms.) By E. E. Maddox. 2nd ed. Revised and Enlarged. Cr. 8vo, pp. 174. *Wright* (Bristol) . . . 4/6
Diseases of the Eye: A Handbook of Ophthalmic Practice for Students and Practitioners. By G. E. de Schweinitz. Illust. 8vo, pp. 641. (5) 18/-
Eye: Diseases of the. A Practical Treatise for Students of Ophthalmology. By George A. Berry. Illustrated with Wood Engravings and Coloured Plates from Original Drawings. 2nd ed., thoroughly Revised and Enlarged. 8vo, cloth, pp. xvi., 728. . . . . 25/-
Nursing in Eye Diseases. By C. S. Jeaffreson. Cr. 8vo, pp. 98. *Wright* (Bristol) 2/6
Ophthalmic Nursing. By Sydney Stephenson. With 61 Illusts. Cr. 8vo, pp. xiii—188. (71) 3/6
Ophthalmic Science and Practice: A Handbook of. By H. E. Juler. With Illusts. 2nd ed. 8vo, pp. 546. (23) 21/-
Ophthalmological Society's Transactions. Vol. 13. 8vo, pp. 300. (5) 12/6
Refraction and Diseases of the Eye: Essentials of. By Edward Jackson, 2 vols. in 1. Profusely Illustrated. (34) . . . . *Net* 4/-

GOUT AND RHEUMATISM.

Gout as a Peripheral Neurosis: On. By W. F. Wade. Cr. 8vo, pp. 60. (76) 2/6
Indigestion, Gout, Corpulency, and Constipation Clearly Explained, Treated and Dieted. By Thomas Dutton. 3rd ed. Enlarged and Revised. Cr. 8vo, pp. 220. (16) 3/-
On Peripheral Neuritis: A Treatise. By J. Ross and J. S. Bury. With Illusts. Roy. 8vo, pp. 422. *Griffin*. 21/-
Rheumatism: Some Investigations Respecting its Cause, Prevention and Cure. P. Wilde. 4to, pp. 80. (77) 2/6

Sciatica: A Record of Clinical Observations on the Causes, Nature and Treatment of 68 Cases. By A. S. Eccles. 8vo, pp. 86. (20) . 3/6
Sciatic Neuritis: Its Pathology and Treatment. By R. Simpson. 12mo., pp 46. *Wright* (Bristol) 1/-

HEALTH RESORTS AND HYGIENE.

Advice to Intending Visitors to Cannes. By H. Blanc. Cr. 8vo. (5) 2/-
Alcohol and Public Health. By J. James Ridge. 2nd ed., Cr. 8vo, pp. 92. *Lewis* 2/-
Bradshaw's Guide: Dictionary of Mineral Waters, Climatic Health Resorts, Sea Baths, and Hydropathic Establishments. With a Map. New ed., 1893. (9) 2/6
Domestic Medicine and Hygiene: Being a Short Account of the More Common Diseases, Their Causes and Treatment. Written in Plain Language. By J. William Russell. 3rd ed., Revised to the Latest Medical Practice. 32mo., pp. xxiii—484. (78) 2/-
Guide to Health in Africa. With Notes on the Country and Its Inhabitants. By T. H. Parke. With Preface by H. M. Stanley. Cr. 8vo, pp. 180. (25) 5/-
Family Medicine and Hygiene for India: A Manual of. By Sir W. Moore. 6th ed. Cr. 8vo, pp. 770. (5) 12/-
Health Hints for Central Africa. With Remarks on Fever. By H. Waller. 5th ed. 12mo., sd. (31) 1/-
Health Resorts of the Canary Islands, in their Climatological and Medical Aspects: The. By J. C. Taylor. 8vo. (5) . . . 3/6
Healthy Hospitals: Observations on some Points connected with Hospital Construction. By Sir Douglas Galton. With Illusts. 8vo. 10/6
Homburg Spa: an Introduction to its Waters, and their Use. By Arnold Schetelig. Cr. 8vo. 2/6
Hygiene and Diseases of Warm Climates. By A. Davidson. Illustrated. with Engravings and full-page Plates. Roy. 8vo, pp. 1024. *Pentland.* 31/6
Hygiene and Public Health: A Treatise on. By T. Stevenson and S. F. Murphy. 3 vols. Vol. 2. Roy. 8vo, pp. 844. (5) . . . 32/-
Papers for the Examinations for the Diploma in Public Health of the Royal College of Physicians of London and the Royal College of Surgeons of England during 1892. (7) . . . . . 6d.
Physical Education. Reprinted from a Treatise on Hygiene by Various Authors. By F. Treves. Edit. by Stevenson and Murphy. 8vo, pp. 76. (5) 2/6
Practical Hygiene: Methods of. By K. B. Lehmann. Trans. by W. Crookes. With numerous Illusts. 2 vols. 8vo. pp. 930. (54) 31/6
Practical Hygiene: Outlines of. By C. G. Currier. 8vo. (34) 10/6
Public Health: A Treatise on, and its Applications in Different European Countries (England, France, Belgium, Germany, Austria, Sweden and Finland). By Albert Palmberg. Trans. from the French Edition, and the Section on England edited by Arthur Newsholme. With 182 Illusts. Roy. 8vo, pp. xx—539. (18) 21/-
Public Health Laboratory Work, including Methods Employed in Bacteriological Research, with Special Reference to the Examination of Air, Water and Food. By H. R. Kenwood. With Illusts. Cr. 8vo, pp. 482. *Lewis.* 10/6

Rural Hygiene: Essays on. By George Vivian Poore. With 6 Illusts. Cr. 8vo, pp. 328. (13) 6/6

The Action of Alcohol upon Health. By Sir Andrew Clark. New ed. Cr. 8vo, sd., pp. 12. (81) . . . . . 1*d.*

The Sanitary Inspector's Handbook. By A. Taylor. With Illusts. Cr. 8vo, pp. 240. *Lewis.* 5/-

The Soil in Relation to Health. By H. A. Miers and R. Crosskey. With Illusts. Cr. 8vo, pp. 150. (20) 3/6

Water-Cure and Climatic Treatment: Where to Send Patients for. By T. Linn. Cr. 8vo, limp. (34) 1/-

LUNGS.

Auscultation and Percussion, together with the other Methods of Physical Examination of the Chest. 4th ed. 12mo. By S. Gee. (23) 6/-

On Diseases of the Lungs and Pleuræ, including Consumption. By R. Douglas Powell. 4th ed. With Illusts. 8vo, pp. 610. *Lewis.* 18/-

The Hygienic Prevention of Consumption. By J. E. Squire. Cr. 8vo, pp. 208. *Griffin.* 6/-

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS.

Aids to Examinations: Being Questions and Answers on Materia Medica, Medicine, Midwifery, Pathology and Forensic Medicine at the Various Qualifying Boards. By D. Walsh. 3rd ed. 12mo, pp. 96. (3) 2/-

Anæsthetics and their Administration: A Manual for Medical and Dental Practitioners and Students. By F. W. Hewitt. With Illusts. Cr. 8vo, pp. 366. *Griffin.* 10/6

Asiatic Cholera: Its History, Pathology, and Modern Treatment. By A. J. Wall. 8vo. *Lewis.* 6/-

Beri-Beri: Its Etiology, Symptoms, Treatment and Pathology. With an Appendix containing a Detailed Clinical Account of Fifty-two Cases, and the Morbid Appearances Seen in Nineteen Post-mortem Examinations, with Characteristic Illustrations of the Disease, being a Thesis submitted for the M.D. Degree of the University of Edinburgh in 1889. By A. J. M. Bentley. 8vo, pp. 252. *Pentland.* . . . . *Net* 10/-

Beri-Beri: Researches concerning its Nature and Cause, and the Means of Arrest Made by Order of the Netherlands Government. By C. A. Pekelharing and C. Winkler. Trans. by James Cantlie. With Coloured Illusts., from Original Drawings. 8vo, pp 170. *Pentland.* . *Net* 10/6

Edinburgh Hospital Reports. Edit. by G. A. Gibson and C. W. Cathcart. Illust. Vol. 1, 8vo. *Pentland.* . . . . . *Net* 12/6

Elementary Materia Medica: A Manual of. By G. S. V. Wills. Cr. 8vo, pp. 280. (1) 5/-

Fevers and Diphtheria: Lectures and Essays on. 1849 to 1879. By Sir W. Jenner. 8vo, pp. 574. (44) . . . . . *Net* 21/-

First Aid in Cholera. By W. Murrell. Fol., on Card. (35) . 6*d.*

First Aid in Poisoning. By W. Murrell. Fol., on card. (35) . 1/-

Forensic Medicine and Toxicology. By J. D. Mann. Roy. 8vo, pp. 626. *Griffin.* 21/-

Galenic Pharmacy: A Practical Handbook to the Processes of the British Pharmacopœia. Specially Designed as a Guide to the Student or Apprentice, and Adapted as a Work of Reference for the Pharmacist. Containing Notes on Pill-coating, Compressed Tablets, Pastils, Surgical Dressings, and many other non-official preparations. With a Glossary of Terms. By R. A. Cripps. Illust. by 76 Engravings. 8vo, pp. 318. (5) 8/6

Guy's Hospital Reports: Edit. by W. H. White and W. H. A. Jacobson. Vol. 49, being Vol. 34 of the 3rd Series. 8vo, pp. 505. (5) 10/6

Healing Art: The Origin and Growth of the. A Popular History of Medicine in all Ages and Countries. By Edward Berdoe. Illusts. 8vo, pp. xii—509. (18) 12/6

Indigestion, Gout, Corpulency, and Constipation Clearly Explained, Treated, and Dieted. By T. Dutton. 3rd ed. (34) . . 3/-

Influenza: Gosletts'. . . . . 3*d*.

Local Therapeutics: Handbook of. Edit. by H. Allen. 8vo. *Lewis*. *Net* 14/-

Malarial Fevers: Notes on the, met with on the River Niger (West Africa). By W. H. Cross. Cr. 8vo, pp. 104. *Simkin* . . 5/-

Materia Medica. (Catechism Series.) Part 4: Physiology, Part 2. Cr. 8vo, sd. *Livingstone* (Edinburgh) . . . . . *ea. net* 1/-

Materia Medica and Therapeutics: A Practical Treatise on. By Roberts Bartholow. 7th ed., large 8vo. 18/-

Medical Handbook, A; for the Use of Practitioners and Students. By R. S. Aitchison. With Illusts. 12mo, pp. 362. *Griffin*. . 8/6

Medical Reports of the Davies Treatment in Phthisis Pulmonalis by the Germicide and Virus Neutralizer of the Bacillus Tuberculosis Discovered by W. and W. Davies. By W. and W. Davies. 8vo, sd. (80) 1/-

Medical Treatment, or Clinical Therapeutics: A Manual of. By I. B. Yeo. With Illusts. 2 Vols. Cr. 8vo, pp. 1,360. . . . 21/-

Medicinal Remedies: Notes on. By J. B. Stephenson. 12mo, pp. 82. (3) 1/6

Medicine for Students and Practitioners: A Text-Book of. By A. Strumpell. 2nd American ed. Trans. by H. F. Vickery and P. C. Knapp. Roy. 8vo. *Lewis* 28/-

Modern Therapeutics (Naphey's), Medical and Surgical: Including the Diseases of Women and Children. 9th ed., Revised and Enlarged. Vol. 2: General Surgery, Gynæcology and Obstetrics. By Allen J. Smith and J. Aubery Davis. 8vo, pp. 1,110. (3) . . 30/-

My Water Cure, as Tested for more than Thirty Years. By S. Kneipp. With Illusts. Trans. by A. de F. 2nd ed. With Appendix containing the Latest Developments of Pfarrer Kneipp's System and a Preface by E. Gerard. Cr. 8vo, pp. 312. (57) 3/6

Myxœdema, and the Effects of Climate on the Disease. By A. Marius Wilson. Cr. 8vo, pp. 36. (71) 2/-

Organic Materia Medica: Manual of. By J. M. Maisch. 5th ed. With 207 Illusts. Cr. 8vo, pp. 578. (16) 10/6

Plant Atlas to "My Water Cure": Containing Ninety-six Pictorial Representations of all the Medicinal Plants Mentioned, as well as some Others in General Use among the People. By S. Kneipp. With 41 Coloured plates. Cr. 8vo. (55) 12/6

Poisoning: What to Do in Cases of. By W. Murrell. 7th ed. Roy. 32mo, pp. 276. *Lewis*. 3/6

Practical Pharmacy for Medical Students. Specially Adapted for the Examination in Practical Pharmacy of the Conjoint Board. By A. C. Stark. 12mo, pp. 214. (3) 3/6

Practice of Medicine: A Manual of the. By F. Taylor. 3rd ed. Cr. 8vo, pp. 940. (5) 15/-

Retrospect of Medicine. By J. Braithwaite. Vol. 106. Cr. 8vo, pp. 420. (1) 6/6

Retrospect of Medicine. By J. Braithwaite. Vol. 107. 12mo, pp. 460. (1) 6/6

St. Thomas's Hospital Reports. New Series. Edit. by T. D. Acland and Bernard Pitts. Vol. 21. 8vo. (5) 8/6

The Year-Book of Pharmacy. Comprising Abstracts of Papers relating to Pharmacy, Materia Medica, and Chemistry, contributed to British and Foreign Journals from July 1892 to June 1893; with the Transactions of the British Pharmaceutical Conference at the Annual Meeting held at Nottingham, 1893. Edited by Louis Siebold. (5) 8vo. 10/-

Transactions of the Medico-Chirurgical Society of Edinburgh. Vol. 12. New Series. Session 1892-'93. 8vo, pp. 312. (40) . 8/6

Westminster Hospital Reports. Vol. 8. (5) . . . 6/-

Year Book of Treatment for 1893. Cr. 8vo. (10) . . 7/6

MIDWIFERY AND DISEASES OF WOMEN.

Antiseptics in Midwifery: The Use of, their Value and Practical Application. By Robert Boxall. 8vo. 1/-

Clinical Gynæcology: Being a Handbook of Diseases Peculiar to Women. By T. M. Madden. With 259 Illusts. 8vo, pp. 560. (3) 12/6

Diseases of Women: A Practical Text-Book of the. By A. H. N. Lewers. 4th ed., with 144 Illusts. Cr. 8vo, pp. 436. *Lewis* . . 10/6

Diseases of Women. By J. Oliver. Sm. 8vo, pp. 211. (5) . 3/6

Diseases of Women: Outlines of the. By J. Phillips. With 120 Illusts. Cr. 8vo, pp. 290. *Griffin* 7/6

Diseases of Women: The Student's Guide to the. By Alfred L. Galabin. 5th ed., with an added chapter on the Anatomy of the Female Genital Organs. With 142 Illusts. Fcap. 8vo. 8/6

Diseases Peculiar to Women: Manual of the. By J. Oliver. 12mo, pp. 196. (5) 3/6

Edinburgh Obstetrical Society: Transactions of the. Vol. 18, Session 1892-'93. 8vo, pp. 306. (40) 8/6

Essentials of Gynæcology. By E. B. Cragin. 3rd Ed. (Kimpton's Student's Manuals). Cr. 8vo. (16) . . . . . *net* 4/-

Gynæcology: Student's Handbook of. Specially Designed to Assist those Commencing the Study of Diseases of Women. Illust. with 49 Engravings. Cr. 8vo., pp. 178. *Livingstone* (Edinburgh) . . . 5/-

Gynæcology and Obstetrics: Selected Papers in. By D. B. Hart. 8vo. pp. 220. *Johnston* 10/6

Midwifery: A Manual of. By A. L. Galabin. Illust. with 261 Engravings. 3rd ed. Cr. 8vo, pp. 864. (5) 15/-

Midwifery: Treatise on the Science and Practice of. By W. S. Playfair. 8th ed. 2 vols. 8vo, pp. 880. (23) 28/-

Modern Gynæcology: A Treatise on Diseases of Women, comprising the Results of the Latest Investigations and Treatment in this Branch of Medical Science. By C. H. Bushong. Illustrated. (34) . 7/6

Obstetrical Society of London: Transactions of. Vol. 34. 8vo. (13) . . . . . *net* 20/-

Obstetric Aphorisms. For the use of Students commencing Midwifery Practice By J. G. Swaine. 10th ed. 12mo, pp. 176. (5) 3 6

Obstetric and Gynæcological Nursing: A Handbook of. By F. Churchill. Being the 5th ed. of "Manual for Midwives." Revised and greatly Enlarged by Thomas More Madden. With numerous Illusts. 12mo, pp. 212. (3) . . . . . *net* 4/-

Obstetrics: Essentials of. By Easterly Ashton. 75 Illustrations, 3rd ed., thoroughly Revised and Enlarged. (34) . . . *Net* 4/-

MISCELLANEOUS.

Accounts, Audits and Tenders: The Uniform System of. For Hospitals and Institutions, With Certain Suggested Checks upon Expenditure, and Tender and other Forms for Securing Economy; and the Index of Classification, Compiled by a Committee of Hospital Secretaries, and Adopted by a General Meeting of the same, 18th January, 1892. By H. C. Burdett. 8vo, pp. 72. (71) 6/-

Action of Alcohol on the Human Body. With Important Testimony of the late Sir William Gull and Rev. Richard Temple West. By W. V. Bird. New ed. 8vo, pp. 18. (1) . . . . . 4*d.*

Alcohol: Easy Lessons on, and its Effects on Body and Mind. By W. Taylor. Illust. Course 2, Containing 12 Lessons: Being a Syllabus of Instruction for Bands of Hope for One Season. Cr. 8vo, sd. (81) 6*d.*

Animal Alkaloids, The: Cadaveric and Vital; or the Ptomaines and Leucomaines. By A. M. Brown. With introduction by Professor A. Gautier. 3rd ed. (34) 7/6

Atlas of Head Sections. 53 plates. 4to. (11) . . . *Net* 70/-

Bacteriology: A Manual of. (Heinemann's Scientific Handbooks.) By A. B. Griffiths. Cr. 8vo, pp. 362. (83) 7/6

Bacteriology: Elements of. For Practitioners and Students. With especial reference to Practical Methods. By S. L. Schenk. Translated from the German (by the author's permission), with an Appendix by W. R. Dawson. With 100 Illusts., partly Coloured. 8vo, pp. 324. (13) 10/-

Circumcision: Its Advantages, and How to Perform It. By M. Clifford. Cr. 8vo, pp. 23. (5) 1/-

Clinical Diagnosis: The Bacteriological, Chemical, and Microscopical Evidence of Disease. Trans. from the 3rd German ed., and Enlarged by James Cagney. With Illusts., Partly in Colours. 8vo, pp. 478. *Griffin* 25/-

Clinical Society's Transactions. Vol. 26. 8vo. (13) . . 11/-

Clinical Society's Transactions. Supplement to Vol. 25. 8vo. (13). . . . . *Net* 10/-

Diagnosis: Essentials of. Arranged in the Form of Questions and Answers. Prepared especially for Students in Medicine. By S. Solis Cohen and A. A. Eshner. With 55 Illust., some of which are Coloured, and a Frontispiece. Cr. 8vo., pp. 372. (16). . . . . *Net* 6/-

Disinfectants and Antiseptics: How to Use Them. By E. T. Wilson. New ed. In Packets of 1 doz. price 1/- . . . . By post, 1/1

Dunglison's Dictionary of Medical Science: Containing a Full Explanation of the various Subjects and Terms of Medicine, Surgery, Chemistry, Pharmacy, Hygiene, etc., with the Pronunciation, Accentuation, and Derivation of the Terms. 21st Ed. Roy. 8vo. (5) 30 -

English Baby in India: The, and how to Rear it. By Mrs. Howard Kingscote. Fcap. 8vo. (5) 2/6

From Hospital Ward to Consulting Room, with Notes by the Way; A Medical Autobiography. By a Graduate of the London University. Post 8vo. *Lewis* 3/6

Healing: The New Art of; or the Relation between the Principles of Voice Production and Health. By J. P. Sandlands. 12mo, pp. 138. (84) 2/6

How Nature Cures: Comprising a New System of Hygiene; also the Natural Food of Man. A Statement of the Principal Arguments against the Use of Bread, Cereals, Pulses, Potatoes, and all other Starch Foods. By Emmet Densmore. 8vo., pp. x—414. (18) . . . 7/6

Infectious Diseases: Notification and Prevention. By Louis C. Parkes. Fcap. 8vo, limp roan 4/6

Medical Directory for 1893. 8vo. (5) 14/-

Medical Register, 1893. Roy. 8vo. (69) 6/-

Microtomist's Vade Mecum. By A. B. Lee. New ed. 8vo, pp. 509. (5) 14/-

Milk and Milk Products: Analysis of. By Henry Leffman and W. Beam. Cr. 8vo. (9) 5/-

Morality: Our, and the Moral Question, Chiefly from the Medical Side. By L. S. Beale. 2nd ed. Cr. 8vo, pp. 258. (5) . . . 3/6

Papers for the Several Examinations of the Examining Board in England by the Royal College of Physicians of London and the Royal College of Surgeons of England, January, 1892, to October, 1892. (7) . 6*d*.

Physical Diagnosis: A Guide to the Methods of Clinical Investigation. By G. A. Gibson and William Russell. With over 100 Illusts., many Coloured. 2nd ed., thoroughly Revised. Cr. 8vo, cloth, pp. xvi., 376. . . . . 10/6

Pocket Medical Dictionary: A. Giving the Pronunciation and Definition of about 12,000 of the Principal Words used in Medicine and the Collateral Sciences. By George M. Gould. 32mo. *Lewis* . 4/-

Practical Bacteriology: An Introduction to: For Physicians, Chemists, and Students. By W. Migula. Trans. by M. Campbell, and Edit. by H. J. Campbell. With 9 Illusts. in the Text and 2 Plates. Cr. 8vo, pp. 234. (18) 6/-

Profession, The: The Public, and the Code. An Address Delivered by Invitation before the Third General Meeting of the Pan-American Medical Congress, Washington, September 7th, 1893. By Ernest Hart. Cr. 8vo, sd., pp. 16. (23) . . . . . .

Public Medical Services: A Guide to the. Compiled from Official Sources by Alexander S. Faulkner. Dem. 8vo. . . . 2/-

Superfluous Hair and the Means of Removing it. By B. Squire. Fcap. 8vo, pp. 64. (5) 2/-

Teeth: The Testimony of the, to Man's Place in Nature. By F. H. Balkwill. With Illustrations. Cr. 8vo. (9) 6/-

The Cholera Epidemic of 1892 in the Russian Empire. With Notes upon Treatment. By F. Clemow. Roy. 8vo. (13) 5/-

The Germ-Plasm: A Theory of Heredity. By. August Weismann. Trans. by W. Newton Parker and Harriet Röunfeldt. With 24 Illusts. Cr. 8vo, pp. xxii—477. (47) 6/-

NERVOUS DISEASES.

Brain and Spinal Cord: Pyogenic Infective Diseases of the. Meningitis, Abscess of Brain, Infective Sinus, Thrombosis. By W. Macewen. 8vo, pp. 374. (11) . . . . . *Net* 18/-

Common Neuroses; or the Neurotic Element in Disease and its Rational Treatment. By J. F. Goodhart. 2nd ed., Cr. 8vo. . . 3/6

Diseases of Inebriety from Alcohol, Opium, and other Narcotic Drugs: Its Etiology, Pathology, Treatment and Medico-Legal Relations. Arranged and Compiled by the American Association for the Study and Cure of Inebriety. 8vo, pp. 404. *Wright*, Bristol. . . . 6/-

Headache and other Morbid Cephalic Sensations. By Harry Campbell. 410 pages. Roy. 8vo. 12/6

Hypnotism: The Elements of. The Induction of Hypnosis, its Phenomena, its Dangers and Value. By R. Harry Vincent. With 20 Illustrations, showing Experiments. Cr. 8vo. (9) 5/-

Hypnotism: The Value of. By Thos. Crisfield. Cr. 8vo, sd., pp. 39. *Author* 1/-

Hypnotisme: Suggestion et Lecture des Pensés. By Jean de Tarchanoff. Traduit du Russe par Ernest Jaubert. Deuxième ed. Cr. 8vo, sd., pp. 163. (82) 2/6

Hysterical or Functional Paralysis: Various Forms of. By H. C. Bastian. 8vo, pp. 210. *Lewis* 7/6

Insane: Handbook for Attendants on the. 2nd ed., Revised and Enlarged. Cr. 8vo, pp. 130. (3) 2/-

Mental Nursing; or Lectures for Asylum Attendants. By William Harding. Illustrated. 8vo, pp. vii—131. (71) . . . 2/6

Nerve Tracts: Illustrations of the, in the Mid and Hind Brain, and the Cranial Nerves Arising Therefrom. By A. Bruce. 4to. *Pentland*. *Net* 50/-

Nervous and Mental Diseases: A Treatise on. For Students and Practitioners of Medicine. By L. C. Gray. Illustrated. 8vo. *Lewis*. 21/-

Nervous Exhaustion: Its Causes, &c. By W. & G. Tyrrell. 2nd ed. Cr. 8vo. (9) 3/-

Nervous System: Manual of Diseases of the. By W. R. Gowers. 2nd ed. 8vo, pp. 1,060. (5) 20/-

Nervous System: The Diseases of the. A Text-Book for Physicians and Students. Translated by Augustus Hock, Assisted by Frank R. Smith. With Introduction by William Osler. By Ludwig Hirt. With 178 Illustrations. 8vo, pp. 698. (16) 21/-

Thaumatic Insanity: The Surgical Aspect of. By H. A. Powell. (Clarendon Press.) Roy. 8vo. (54) 2/6

PATHOLOGY.

Cancers and the Cancer Process: A Treatise, Practical and Theoretical. By H. Snow. 8vo, pp. 394. (5) 15/-
Cholera Germ, The: When, Where and Why Infectious. By Gustav Jaeger. [Trans. and Edit. by Lewis R. S. Tomalin. Cr. 8vo, sd., pp. 26. (79) . . . . . 1d.
Clinical Medicine: Bramwell's Atlas of. Vol. 1, Vol. 2. *each, Net* 38/-
Fœtus: The Diseases and Deformities of the. An Attempt towards a System of Ante-Natal Pathology. By J. W. Ballantyne. With Plates and other Illustrations. Vol. 1. 8vo, pp. 246. (40) . . 10/6
Inflammation: Lectures on the Comparative Pathology of. Delivered at the Pasteur Institute, in 1891. By E. Metchnikoff. 8vo. (9) 12/-
Vermiform Appendix: Contribution to the Pathology of. By T. N. Kelynack. Illustrated. 8vo. *Lewis* 10/6

SKIN DISEASES AND SYPHILIS.

Constitutional Syphilis: The Treatment of. By O. Ziemssen. 8vo. *Lewis* 3/6
Diseases of the Skin: An introduction to the Study of. By P. H. Pye Smith. Cr. 8vo, pp. 364. (5) 7/6
Diseases of the Skin: An Outline of the Principles and Practice of Dermatology. By Malcolm Morris. With 8 Chromo-lithographs and 17 Woodcuts. (10) 10/6
Diseases of the Skin: A Pharmacopœia for. By J. Startin. 3rd ed. 32mo. *Lewis* 2/6
Diseases of the Skin: Essentials of. By Henry W. Stelwagon. 74 Illusts., many of which are Original. 2nd ed. (34) . . *Net* 4/-
Diseases of the Skin: Their Description, Pathology, Diagnosis and Treatment. By H. R. Crocker. 2nd ed. With 92 Illustrations. 8vo, pp. 956. (5) 24/-
Leprosy. By W. Munro. 8vo, pp. 96. (28) 3/6
Leprosy: The Recrudescence of, and its Causation: A Popular Treatise. With an Appendix. By William Tebb. Cr. 8vo, pp. 408. (18) 7/6
Skin and Complexion: The. By J. Startin. 16mo, pp. 82. (1) 1/-
Skin Diseases: Medicated Baths in the Treatment of. By Leslie Phillips. Cr. 8vo. 4/6
Syphilis and the Nervous System: Being a Revised Reprint of the Lettsomian Lectures for 1890. Delivered before the Medical Society of London. By W. R. Gowers. Cr. 8vo, pp. 140. (5) . . 4/-
Vaccination Eruptions: Original Research. By T. D. Poole. 8vo, pp. 120. *Livingstone* (Edinburgh) 4/6

SURGERY.

Abdominal Hernia: Clinical Lectures on. Chiefly in Relation to Treatment, including the Radical Cure. By William H. Bennett. With 12 Diagrams in the Text. 8vo, pp. 236. (13) 8/6
Abdominal Sections: Martin's After-Treatment of. . . . *Net* 2/-
Appendicitis and Perityphlitis. Translated from the French by Richard J. A. Berry. By C. H. Talamon. Cr. 8vo, pp. 246. (17) . 6/-
Archives of Surgery. By Jonathan Hutchinson. Nos. xv. to xviii. (5) . . . . . *each* 2/6

Brain Surgery. By M. A. Starr. With 59 Illustrations. 8vo pp. 304. (3). 10/6

Calculi of the Bladder: Introduction to the Catalogue of the Collection of. Upwards of 1,100 in Number (besides Foreign Bodies, Removed by Operation. By Sir H. Thompson. 8vo, pp. 38. (5) . . 2/6

Rectum, Anus, and Sigmoid Flexure: A Treatise on Diseases of the. By J. M. Mathews. With 6 Chromo-lithographs and Numerous Illusts. 8vo, pp. 532. (16) 21/-

Ruptures: A Treatise on. By J. F. C. H. Macready. With 24 Lithographed Plates and Illustrations. Roy. 8vo, pp. 440. *Griffin* 25/-

Scab-Healing, and its Application in General Surgery. By J. Delpratt Harris. Demy 8vo. *Lewis* 1/-

Surgery: Text-Book of, for Practitioners. By W. W. Keen and J. W. White. Profusely Illustrated. Vol. 1. Two Parts. Roy. 8vo, pp. 1,230. *Pentland* . . . . . *Net* 30/-

Tumours: Innocent and Malignant. By J. B. Sutton. With 250 Engravings and 9 Plates. 8vo, pp. 516. (10) 21/-

URINARY ORGANS.

Genito-Urinary Diseases: Their Symptoms and Treatment. By F. W. Stokes. (34) 3/6

Genito-Urinary Diseases, Syphilology, and Dermatology: System of. Edit. by Prince A. Morrow. To be issued in Six Divisional Volumes. Roy. 8vo, of about 550 pages. Illustrated with Coloured Plates and Engravings. Price per vol. . . . . *Net* 14/-

Male Organs of Generation: The Diseases of the. By W. H. A. Jacobson. 88 Illustrations. 8vo, pp. 781. (5) 22/-

Urethra and Prostate: Chronic Diseases of the. With Special Reference to their Treatment by Irrigation. By F. W. Stokes. Cr. 8vo, pp. 50. (16) 1/-

Urinary and Reproductive Organs: Functional Diseases of the. By D. C. Black. 8vo. (5) . . . . . *Rebman.* 5/-

Urinary Apparatus: Diseases of the. Phlegmatic Affections. By J. W. S. Gouley. (34) 7/6

Urinary Organs: Surgical Diseases of the. By R. Harrison. New ed. 8vo, pp. 588. (5) 16/-

Urine: A Guide to the Examination of the. 7th ed. Edited and Revised by H. Lewis Jones. By J. W. Legg. 12mo, pp. 130. *Lewis* . 3/6

Medical Annual Official and Trade Directory.

GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION OF THE UNITED KINGDOM.

Offices: 299, Oxford St., London, W.

PRESIDENT: Sir Richard Quain, Bart., M.D.

MEMBERS OF THE GENERAL COUNCIL.

Bruce, William, M.D., Scotland	Direct Representatives.
Foster, Sir Walter, M.P., England	
Glover, James Grey, M.D., England	
Kidd, George Hugh, M.D., Ireland	
Wheelhouse, Claudius Galen, Esq., England	
Atthill, Lombe, M.D.,	(Roy. Coll. of Physic., Ireland)
Banks, Sir John Thos., K.C.B., M.D.,	(Roy. Univ., Ireland)
Bryant, Thos., Esq.,	(Roy. Coll. Surg., England)
Cameron, Hector Clare, M.D.,	(Fac. Physic. and Surg., Glasgow)
Carter, Robert Brudenell, Esq.,	(Apoth. Soc., London)
Church, Wm. Selby, M.D.,	(University of Oxford)
Duckworth, Sir Dyce, M.D.,	(Roy. Coll. Physic., London)
Fraser, Angus, M.D.,	(Univ., Aberdeen)
Gairdner, William Tennant, M.D.,	(Univ., Glasgow)
Haughton, Rev. Samuel, M.D., F.R.S.,	(Univ., Dublin)
Leech, Daniel John, M.D.,	(Victoria Univ., Manchester)
Mac Alister, Donald, M.D.,	(Univ., Cambridge)
McVail, David Caldwell, M.B.,	(Nominated by Privy Council)
Moore, Charles Frederick, M.D.,	(Apoth. Hall, Ireland)
Moore, William, M.D.,	(Nominated by Privy Council)
Pettigrew, James Bell, M.D., F.R.S.,	(St. Andrew's Univ.)
Philipson, George Hare, M.D.,	(Univ., Durham)
Quain, Sir Richard, Bart., M.D.,	(Nominated by Privy Council)
Simon, Sir John, K.C.B.,	(Nominated by Privy Council)
Smyly, Sir Philip, M.D.,	(Roy. Coll. Surg., Ireland)
Teale, Thomas Pridgin, M.A.,	(Nominated by Privy Council)
Tuke, John Batty, M.D.,	(Roy. Coll. Physic., Edin.)
Turner, Sir William, M.B.,	(Univ., Edin.)
Watson, Patrick Heron, M.D.,	(Roy. Coll. Surg., Edin.)
Wilks, Samuel, M.D.,	(Univ., London)

REGISTRARS:

ENGLAND—William John Clarke Miller, B.A., 299, Oxford Street, London, W.
SCOTLAND—James Robertson, 1, George Square, Edinburgh.
IRELAND—Robert Lynn Heard, M.D., 35, Dawson Street, Dublin.

TREASURERS:

Sir Dyce Duckworth, M.D., and Thomas Bryant, Esq.

Army Medical Department.—18, Victoria Street, London, S.W.; Surg.-Maj.-Gen. W. A. Mackinnon, K.C.B., Director-General.

Indian Army Medical Department.—India Office, Westminster

Naval Medical Department.—Admiralty, Avenue House, Northumberland Avenue, London, W.C. James Nicholas Dick, C.B., Director-General.

Local Government Boards—

Offices, Whitehall, London, S.W. President, Rt. Hon. H. H. Fowler, M.P.; Permanent Sec., Sir Hugh Owen, K.C.B.; Chief Clerk, A. C. Bauke, Esq.; Medical Officer, R. T. Thorne, M.B.; Inspector for general Sanitary purposes, W. H. Power, M.D.

IRELAND—Custom House, Dublin. Sec., T. A. Mooney, Esq.

Lunacy Boards—

ENGLAND—19, Whitehall Place, S.W. Secretary, G. Harold Urmson, Esq.
SCOTLAND—51, Queen Street, Edinburgh. Sec., T. W. L. Spence, Esq.
IRELAND—Dublin Castle. Chief Clerk, J. Lowndes, Esq.

Lord Chancellor's Visitors in Lunacy.—Royal Courts of Justice, Strand, W.C. Chief Clerk, I. M. Wade, Esq.

Anatomy, Inspectors of—

LONDON—Wm. Hy. Bennett, F.R.C.S., 1, Chesterfield Street, Mayfair, W.
PROVINCES—John Birkett, F.R.C.S., 62, Green Street, Grosvenor Square, W.
SCOTLAND—Rt. Hon. James Alex. Russell, M.B., Canaan Lane, Edinburgh.
IRELAND—Wm. J. Martin, M.D., 17, Harcourt Street, Dublin.

Anatomy, School of—

T. Cooke, F.R.C.S. Ed., 40, Brunswick Square, W.C.

Vaccination—

The following gentlemen are authorised to give certificates of proficiency in vaccination:

LONDON—Robert Cory, M.D.,* 73, Lambeth Palace Road, S.E.
E. C. Greenwood, L.R.C.P., 19, St. John's Wood Park, N.W.
V. A. JAYNES, M.R.C.S., 157, Jamaica Road, Bermondsey, S.E.
J. Loane, M.R.C.P.,* 98, Tressillian Road, St. John's, S.E.
J. F. Staines, L.R.C.P., 42, Bloomsbury Square, W.C.
E. L. Webb, M.R.C.S., 9, St. George's Road, Eccleston Square, S.W.
BIRMINGHAM—Edmund Robinson, M.D.,* 213, Bristol Road, Edgbaston.
BRISTOL—Henry Lawrence, L.R.C.P.,* 9, Park Row.
CAMBRIDGE—Robert Cory, M.D.
EXETER—Wm. A. Budd, M.D.,* 20, Southernhay.
LEEDS—Fredk. Holmes, M.R.C.S.,* Springfield House, Burmantofts.
LIVERPOOL—N. E. Roberts, M.B.,* 33, Mulgrave Street.
MANCHESTER—Ellis S. Guest, M.R.C.S.,* 263, Oxford Street.
NEWCASTLE-ON-TYNE—John Hawthorn, M.R.C.S.,* 68, New Bridge Street.
SHEFFIELD——William Skinner, M.R.C.S.,* 250, Brook Hill.
EDINBURGH—William Husband, M.D.,* 4, Royal Circus.
J. B. Buist, M.D.,* 1, Clifton Terrace.
GLASGOW—Hugh Thomson, M.D.,* 6, Lansdown Crescent.
W. McLennan, M.B., 3, Buckingham Terrace.
DUBLIN—A. N. Montgomery, M.R.C.P.,I.,* 45, Upper Sackville Street.

Those marked (*) may give certificates after examination of any candidate; the remainder can only certify those whom they have personally instructed.

MEDICAL AND SCIENTIFIC SOCIETIES.

Abernethian Society—St. Bartholomew's Hospital, E.C.
Æsculapian Society—115, Green Lanes, N.
Anatomical Society of Great Britain and Ireland—47, Charles Street, Berkeley Square, W.
Anthropological Society of Great Britain and Ireland—3, Hanover Square, W.
Association for the Advancement of Medicine by Research—Secretary, 57, Wimpole Street, W.
Association of Fellows of the Royal College of Surgeons of England—Secretary, 39, Welbeck Street, W.
Association of Members of the Royal College of Surgeons of England—Secretary, 3, Hamilton Road, Ealing, W.
Association of Registered Medical Women—Secretary, 13, Wyndham Place, Bryanstone Square, W.
British Association for the Advancement of Science—Burlington House, Piccadilly, W.
British Dental Association—Secretary, 40, Leicester Square, W.C.
British Gynæcological Society—20, Hanover Square, W.
British Institute of Public Health, 20, Hanover Square, W.
British Laryngological and Rhinological Association—Secretary, 7, Taviton Street, W.C.
British Medical Association—429, Strand, W.C.
British Medical Benevolent Fund—Secretary, 62, Upper Berkeley Street, Portman Square, W.
British Medical Temperance Association—Sec., Carlton House, Enfield.
Chemical Society—Burlington House, Piccadilly, W.
Clinical Society of London—20, Hanover Square, W.
Dermatological Society of London—Secretary, 14, Harley Street, W.
Entomological Society—11, Chandos Street, Cavendish Square, W.
Epidemiological Society—11, Chandos Street, Cavendish Square, W.
General Practitioners' Alliance—Secretary, 83, Chiswell Street, E.C.
Geological Society of London—Burlington House, Piccadilly, W.
Harveian Society—Stafford Rooms, Tichborne Street, W.
Hunterian Society—London Institution—23, Finsbury Circus, E.C.
King's College Medical Society—Strand, W.C.
Linnean Society—Burlington House, Piccadilly, W.
London Hospital Medical Society—Mile End, E.
Medical Defence Union Offices—Medical Institute, Birmingham.
Medical Officers of Schools Association—Secretary, Christ's Hospital, E.C.
Medical Society of London—11, Chandos Street, Cavendish Square, W.
Medico-Psychological Association—Sec., 11, Chandos Street, Cavendish Square, W.
Neurological Society—Secretary, 4, Seymour Street, W.
New Sydenham Society—Secretary, 15, Cavendish Square, W.
Obstetrical Society—20, Hanover Square, W.
Odontological Society of Great Britain—40, Leicester Square, W.C.
Ophthalmological Society of the United Kingdom—11, Chandos Street, Cavendish Square, W.
Pathological Society of London—20, Hanover Square, W.
Pharmaceutical Society of Great Britain—17, Bloomsbury Square, W.C.
Physical Society of London—Sec., Blakesley, Royal Naval College, Greenwich
Physiological Society—Sec., C. S. Sherrington, M.D., St. Thomas Hospital.
Poor Law Medical Officers' Association—Sec., 3, Bolt Court, Fleet Street, E.C.
Royal Astronomical Society—Burlington House, W.

Royal Institution—21, Albemarle Street.
Royal Medical Benevolent College (Epsom). Secretary, 37, Soho Square, Piccadilly, W.
Royal Medical and Chirurgical Society—20, Hanover Square, W.
Royal Meteorological Society—22, Great George Street, S.W.
Royal Microscopical Society—20, Hanover Square.
Royal Society—Burlington House, Piccadilly, W.
Royal Statistical Society—9, Adelphi Terrace, W.C.
Sanitary Institute of Great Britain, with which is incorporated the Parkes Museum—74A, Margaret Street, Regent Street, W.
Society of Medical Officers of Health—20, Hanover Square, W.
Society for the Relief of Widows and Orphans of Medical Men—20, Hanover Square, W.
Society for the Study of Inebriety—Sec., 2, Alexander Road, St. John's Wood, N.W.
"The Lancet" Relief Fund—Secretary, Strand, W.C.
Volunteer Ambulance School of Instruction,—7, St. Bene't Place, Gracechurch Street, E.C.
Volunteer Medical Association—20, Hanover Square, W.
West London Medico-Chirurgical Society—West London Hospital, Hammersmith, W.
Zoological Society—3, Hanover Square, W.

Antiseptic Dressing Manufacturers.

Liverpool Patent Lint Co., Netherfield Road, North, Liverpool
Macfarlan, J. F. & Co. 71, Coleman Street, E.C., and Edinburgh
Milne, John, Ladywell, S.E.
Robinson & Sons, Chesterfield and London
Sanitary Wood Wool Co. (Lim.), Thavies Inn, Holborn Circus
St. Dalmas, A. de, Leicester

Bottle Makers.

Curle, Jas. A., Homer Road, E.
Harris, H. & Co. 153, Upper Thames Street, E.C.
Isaacs, I. & Co. 25, Francis Street, Tottenham Court Road
Kilner Bros. 24, Great Northern Goods Station, King's Cross, N.
Ruch, A. & Co. 12 and 13, Laurence Pountney Lane, Cannon St. E.C.
Youldon, E. Great Garden Street, E.

Dietetic Articles (Manufacturers of).

Abbot, Van & Sons, Duke Street Mansions, Grosvenor Square, W.
Allen & Hanburys, Plough Court, Lombard Street, E.C.
Ambrecht, Nelson & Co. 2, Duke Street, Grosvenor Square
Blake, Sandford & Blake, 47, Piccadilly, W.
Bonthron, John, 106, Regent Street
Bovril (Lim.), 30, Farringdon Street, E.C.
Bragg, J. L. 14, Wigmore St., W.C.
Brand & Co. 11, Little Stanhope Street, Mayfair, W.
Cadbury Bros., Birmingham
Callard & Co., 65, Regent Street, W.
Carnrick & Co. (Lim.), 24 and 25, Hart Street, W.C.
Coleman & Co. (Lim.), St. George's, Norwich & New London St., E.C.
Dahl's Agency, 41, Eastcheap, E.C.
Davis, R. 20, Maddox Street, W.
Fry, J. S. & Sons, Bristol & London
Hertz & Collingwood, 4, Sussex Place, Leadenhall Street
Hoff, M. 29, New Bridge Street, E.C.
Horlick's Malted Milk, 39, Snow Hill, E.C.
Ingram & Royle, 52, Farringdon St.
Jensen & Co. (Lim.), 9, Moorgate St., E.C.
Johannis Co. (Lim.), 25, Regent Street, S.W.
King, F. & Co. (Lim.), Belfast, and Camomile Street, E.C.

Kreochyle Co. Viaduct House, Farringdon Street, E.C.
Liebig's Extract of Meat Co. (Lim.), 9, Fenchurch Avenue
Maltine Manufacturing Co. (Lim.), 24 & 25, Hart Street, W.C.
Mellin, G. Peckham, S.E.
Neave, J. R. & Co. Fordingbridge
Nestlé, H. 9, Snow Hill, London, E.C.
Pearce, C. W. & Co. 16, Mark Lane
Rizine Food Co. (Lim.), 41, Gracechurch Street, E.C.
Rowntree, H. I. & Co. York
Schweitzer, H. & Co. (Lim.), 45, Farringdon Street, E.C.
Squire & Sons, 413, Oxford St., W.
Sumner, R. & Co. Lord Street, Liverpool

Druggists (Principal Wholesale).

Allen & Hanburys, Plough Court, Lombard Street, E.C.
Baiss, Bros. & Co , 4, Jewry Street, E.C.
Barclay & Sons (Lim.), Farringdon Street, London, E.C.
Barron, Harveys & Co. Giltspur Street, E.C.
Battley & Watts, Cripplegate, E.C.
Benger, F. B. & Co. (Lim.), Otter Works, Manchester
Brady & Martin, Northumberland Road, Newcastle
Bullock, J. L. & Co., 3, Hanover St., W.
Burgoyne, Burbidges & Co. 16, Coleman Street, E.C.
Burroughs, Wellcome & Co. Snow Hill Buildings, E.C.
Christy, Thos. & Co. 25, Lime Street, E.C.
Corbyn, Stacey & Co. 300, High Holborn, W.C.
Dakin Brothers, 87A, Leadenhall Street, E.C.
Duncan, Flockhart & Co. Edinburgh
Evans, Lescher & Webb, 60, Bartholomew Close, E.C., and Liverpool
Ferris & Co. Bristol
Fletcher, Fletcher & Stevenson, 21, Mincing Lane, E.C.
Gale & Co. 15, Bouverie Street, Fleet Street, E.C.
General Apothecaries' Co. 49, Berners Street, E.C.
Giles, Schacht & Co. 52, Royal York Crescent, Clifton, Bristol
Harris, Phillip & Co. (Lim.), 144, Edmund Street, Birmingham
Hearon, Squire & Francis, 38, Southwark Street, S.E.
Hewlett, C. J. & Son, 40 & 41, Charlotte Street, E.C.
Hockin, Wilson & Co. New Inn Yard, 186A, Tottenham Court Road, W.C.
Hodgkinsons, Treacher & Clarke, 101, Whitecross Street, E.C.
Howards & Sons, Stratford, E.
Huskisson, H. O. & Co., Swinton Street, E.C.
Langton, Hicks Bros. & Co., 38, Wilson Street, E.C.
Leslie & Co. (Lim.), Bond Court House, Walbrook, E.C.
Lorimer & Co. Britannia Row, N.
Macfarlan, J. F. & Co. North Bridge, Edinburgh, and 71, Coleman Street, E.C.
Mackey, Mackey & Co. 1 & 2, Bouverie Street, Fleet Street, E.C.
Maw, Son & Thompson, 7 to 12, Aldersgate Street, E.C.
Newbery, F. & Sons, 1, King Edward Street, E.C.
Oppenheimer, Son & Co. (Lim.), 14, Worship Street, E.C.
Parke, Davis & Co., 21, North Audley Street, London, W.
Potter & Clarke, 5, 6 and 7, Raven Row, Artillery Lane, E.
Potter & Sacker, 80, Fenchurch St.
Reynolds & Branson, 13, Briggate, Leeds
Richards, John M. 46, Holborn Viaduct, E.C.
Richardson, John & Co. Leicester
Roberts & Co. 76, New Bond St., W.
Robinson, B. Pendleton, Manchester
Seabury & Johnson, 32, Snow Hill, E.C.
Slinger & Son, York
Southall, Bros. & Barclay, Birmingham
Squire & Sons, 413, Oxford St., W.

Stern, G. & G. Gray's Inn Road, W.C.
Sumner, R. & Co. 50A, Lord Street, Liverpool
Symes & Co. (Lim.), Liverpool
Thompson, Henry A. & Son, 22, Worship Street, E.C.
Willows, Francis & Butler, 101, High Holborn, W.C.
Wilson, Salamon & Co. 165, Queen Victoria Street, E.C. (Fahlberg's Saccharin)
Woolley, Jas. Sons & Co. Manchester
Wright, Layman & Umney, 50, Southwark, S.E.
Wyleys (Lim.), Coventry
Wyman & Westwood, 58, Bunhill Row, E.C.

Medical Transfer Agencies.

British Medical Protection Society, 8, Berners Street, W.
Huish, C. H., 31, Mundania Road, S.E.
Orridge & Co., 32, Ludgate Hill, E.C.
Thomas, C. B. C., Devonport
Turner, Percival, 4 Adam Street, Adelphi, W.C.

Nursing Institutions and Associations.

London.

Blackheath Nursing Institution, 9, Montpelier Row, S.E.
Charing Cross Hospital, Strand
Chelsea and Pimlico District Nursing Association, 22, Tite St., Chelsea, S.W.
Deaconesses Institution, Tottenham
East London Nursing Society, 49, Philpot Street, Commercial Road, E.
General Lying-in Hospital, supplies Monthly and Wet Nurses, York Road, Lambeth
General Nursing Institute, 5, Mandeville Place, Manchester Sq., W.
Guy's Hospital Trained Nurses' Institution, 14, St. Thomas St., S.E.
Hamilton Association for Trained Male Nurses, 57, Park Street, Grosvenor Square, W.
Hampstead Home Hospital and Nursing Institute, Parliament Hill Road, N.W.
Hanover Institute, 22, George Street, Hanover Square, W.
Highbury Nurses Institution, 20, St. Mary's Road, Canonbury
Holland Nursing Institution, Tavistock Chambers, Hart St. E.C.
Holy Cross Society of Trained Nurses, 38, Ladbrook Road, W.
Hooper, Miss, Nurses Agency, 9, Upper Baker Street, N.W.
Ings House Nurses Co-operation, 25, Nottingham Place, Baker Street, W.
Institution for Nurses for Nervous and Mental Disorders, 1, Northop Street, Grosvenor Square, W.
Kensington District Nursing Association, 1, Bedford Gardens, W.
London Association of Nurses, 123, New Bond St., W.—Branch Offices, 86, Kennington Park Road, S.E.
London, Clapham and Brixton Association of Trained Nurses, 210, Clapham Road, S.W.
London Hospital Private Nursing Institution, Whitechapel Road
Metropolitan and National Nursing Association for the Poor, 23, Bloomsbury Square, W.C.
Middlesex Hospital Institute, 17, Cleveland Street, W.
Mildmay Nursing House, 9 & 10, Newington Green, N.
Nightingale Fund for Training Nurses at St. Thomas' Hospital, Sec., 5, Hyde Park Square, W.
North London Massage Institute, 8, Alexandra Road, Finsbury Park
North London Nursing Association for the Poor, 413, Holloway Road, N.
Nursing Institute, 39 & 41, Boundary Road, N.W.
Nursing Sisters' Institution, 4, Devonshire Square, Bishopsgate
Nursing Sisters of the Poor, 14, Wellington Road, E.
Paddington and Marylebone District Nursing Association for the Poor, 510, Edgeware Road, W.

Queen Victoria Jubilee Institute for Nurses, for the Poor, St. Katherine's Royal Hospital, Regents Park
Royal British Nurses' Association, 8, Oxford Circus Avenue, 231, Oxford Street, W.
Royal Free Hospital Trained Nurses' Institute, Gray's Inn Road, W.C.
St. Bartholomew's Hospital Nurses' Institute, 13, West Smithfield
St. Helena Home, 1 Grove End Road, St. John's Wood, N.W.
St. John Ambulance Association, St. John's Gate, Clerkenwell
St. John the Divine Nursing Sisterhood, 68, Drayton Gardens, S.W.
St. John's House and Sisterhood, 8, Norfolk Street, Strand, W.C.
Westminster Training School, 27, Queen Anne's Gate, S.W.
Wigmore Institution, 2, Butstrode Street, Welbeck Street, W.
Wilson, D. E., 96—98A, Wimpole Street, W.

PROVINCIAL.

Bangor.
Nursing Institute.

Bath.
Hospital Nursing Institute, 1, Duke Street
Nurses' Institute, 44, Rivers Street

Bournemouth.
Nurses' Institute

Bradford.
Nurses' Institute, Manningham Lane

Brighton.
Rawlinson Institution, 113, King's Road
West End Nursing Institution, 1, York Road

Bristol.
Royal Infirmary
General Hospital
Nurses' Training Institution, Clifton

Cambridge.
Nursing Association, 13, Fitzwilliam Street

Cardiff.
Glamorganshire and Monmouthshire Trained Nurses' Institution

Dublin.
City of Dublin Nursing Institution, 27, Upper Baggot Street
Red Cross Nursing Sisters' House, 87, Harcourt Street

Eastbourne.
Nursing Institution

Edinburgh.
Training Institution, 13, Stafford Street

Glasgow.
Public Dispensary, 54, Dundas St.
Glasgow Maternity Hospital, North Portland Street

Great Grimsby.
Nursing Institution, 3, Grosvenor Crescent

Harrogate.
Trained Nurses' Institution

Leamington.
Warneford, Leamington & South Warwickshire Hospital

Leeds.
Nurses Institute, 21, Hyde Terrace

Leicester.
Institution for Trained Nurses, Aylestone Road

Liverpool.
Nurses' Institute, 70, Hope Street

Maidstone.
Stephen Mockton Nurses' Home, West Kent Hospital

Northampton.
35, Hazlewood Road

Oxford.
36, Wellington Square

Salford.
Manchester & Salford Institution, Adelphi Terrace

Scarborough.
Trained Nurses' Institute, 1, West Park Terrace

Sheffield.
5, Clarkhouse Road

Southport.
Trained Nurses' Home, 3, Crosby Road (East)

Swansea.
South Wales Institute

Tunbridge Wells.
Kent Nursing Institution

Worcester.
City and County Institution

Opticians.

Curry & Paxton, 195, Great Portland St., W. and Liverpool & Bristol
Fournet, A. 18, Bentinck St. W.

Printers.

Johnston, W. & A. K. Edina Works, Edinburgh
Silverlock, H. 92, Blackfriars Road, S.E.
Wodderspoon & Co. 7, Serle Street, W.C.
Wright, John & Co. Stone Bridge, Bristol

Publishers and Booksellers (Medical).

Baillière, Tindall & Cox, 20, King William Street, W.C.
Cassell & Co. (Lim.), Ludgate Hill (and Printers)
Churchill, J. & A. 11, New Burlington Street, W.
Cornish Bros. New St. Birmingham
Cornish, J. E. 16, St. Ann's Square, Manchester
Danielsson & Co. 52, Beaumont St. W.
Fannin & Co. Grafton St. Dublin
Griffin, C. & Co. (Lim.) 12, Exeter Street, Strand, E.C.
Gurney & Jackson, 1, Paternoster Row, E.C.
Johnston, W. & A. K., Edina Works, Edinburgh
Kimpton, Henry, 82, High Holborn, W.C.
Lewis, H. K. 136, Gower St. W.C.
Lippincott, J. B. Co. 10, Henrietta Street, Covent Garden
Livingstone, E. & S. Teviot Place, Edinburgh
Longmans, Green & Co. 38 to 41, Paternoster Row, E.C.
Low (Sampson) & Co, Fetter Lane, E.C.
Maclehose, J. & Sons, 61, St. Vincent Street, Glasgow
Macmillan & Co. Bedford St. W.C.
Murray, James, St. Nicholas Street, Aberdeen
Oliver & Boyd, Edinburgh
Paul (Kegan), Trench, Trübner & Co (Lim.), Paternoster Hou e, Charing Cross Road, W.C.
Pentland, Young J. 38, West Smithfield, E.C. and 11, Teviot Place, Edinburgh
Renshaw, Henry, 356, Strand, W.C.
Robinson, F. J., 11, Adam Street, Strand, E.C.
Simpkin, Marshall, Hamilton, Kent, & Co. (Lim.), Stationers' Hall Court & Paternoster Row, E.C.
Smith, Elder & Co. 15, Waterloo Place, S.W.
Southwood, Smith & Co. 4 King St. E.C.
Stenhouse, A. College Gate, Hillhead, Glasgow
Watt, A. P. 2, Paternoster Square
Whittaker & Co. Paternoster Square, E.C.
Wright, John & Co. Stone Bridge, Bristol (and Printers)

Sanitary Engineers.

Crapper, T. & Co. 50 to 54, Marlborough Road, S.W.
Doulton & Co. Lambeth, S.E.
Jennings, Geo. Stangate, Lambeth, S.E
Llewellins & James, Bristol
North British Plumbing Co. 86, Newman St. Oxford St. W.
Patent Gully Co. (Lim.) Nottingham
Reid, A. W. & Co. 69, St. Mary Axe, E.C.
Sanitary Engineering & Ventilation Co. 65, Victoria Street, S.W.
Steven Bros. & Co. 4, Upper Thames Street, E.C.
Winser & Co. 52, Buckingham Palace Road, S.W.

Sanitary Surveyors.

Carter, H. C.E. 65, Victoria St. S.W.
Clark J. E. 25, Gt. Ormond St. W.C.

Dymond, C. W. M. Inst. C.E. 3, Forefield Place, Bath
Hallett, Walter & Co., 102, Harrow Road, W.
London & Suburban Sanitary Survey Association, 34, Victoria Street, S.W.
Pilditch, P. E., 10, Up. Phillmore Place, W.
Ruscoe, E. H., 6, Great Castle Street, W.
Sanitary Survey Association, 85, Gower Street, W.C.
Sanitary Engineering & Ventilation Co. 65, Victoria Street, S.W.
Tidman, Edward, C.E. 34, Victoria Street, S.W.

Surgical Instrument and Appliance Manufacturers.

Arnold & Sons, West Smithfield
Bailey W. H. & Son, 38, Oxford Street, W.
Carter A. 47, Holborn Viaduct, E.C.
Carter, John, 6A, New Cavendish Street, W
Cocking, J. T. Plymouth
Coxeter, James & Son, 4 and 6, Grafton Street, W.C.
Dakin Bros.—Offices, 87A, Leadenhall Street, E.C.
Down Bros. 5 & 7, St. Thomas St. S.E.
Ernst, Fr. Gustav, 80, Charlotte Street, Fitzroy Square, W.
Evans & Wormull, 31, Stamford St. S.E.
Fannin & Co. Grafton St. Dublin
Ferris & Co. Bristol
Gale, George & Sons, Leeds
Gray, Joseph & Son, Truss Works, Sheffield
Grossmith, W. R. 175, Fleet Street, W.C.
Hancock, E. & Co. Westgate Street, Bath
Hawksley, T. 357, Oxford St. W.
Hills & Co. 46, Newcomen Street, Boro', S.E.
Hooper & Co. 7, Pall Mall, East
Hutchinson, W. & H. Sheffield
Huxley, E. 13, Old Cavendish St. Oxford Street, W.
King, Mendham & Co. Bristol
Krohne & Sesemann, 8, Duke Street, Manchester Square, W.
Lindsey & Sons, 40, Gracechurch Street, E.C.
Lynch & Co. 192, Aldersgate Street
Matthews Bros. 10, New Oxford Street, W.C.
Maw, S. Son & Thompson, 7 to 12, Aldersgate Street, E.C.
Mayer & Meltzer, 71, Great Portland Street, W.
Milne, John, Ladywell, S.E.
O'Connor Extension Co., 275 & 276, High Holborn, W.C.
Reynolds & Branson, 13, Briggate, Leeds
Salmon, H. R. 42, Beaumont St. W.
Salmon, Ody & Co. 292, Strand
Schall, K. 55, Wigmore Street, W.
Schramm, K. R. Gt. Castle Street, Cavendish Square, W.
Spratt, W. H. & Brooke, 48, New Bond Street, W.
Statham, H. & Co. Corporation St. Manchester
Ward, John, 246, Tottenham Court Road
Weiss, J. & Son, 287, Oxford Street
Winter, R. J. & Co. 57, Goodge Street, W.
Wright, C. & Co., 108, New Bond Street, W.

Vaccine Lymph.

Lymph is supplied, free of charge, on application to National Vaccine Establishment, New Government Buildings, Whitehall, London, S.W.

Association for the supply of pure Vaccine Lymph, 12, Pall Mall, East, S.W.
Dakin Brothers, 87A, Leadenhall Street, E.C.
Faulkner, W. 16, Endell Street, Bloomsbury, W.C.
Ferris & Co. Bristol
Hime, Dr., Bradford, Yorks.
Rebman, F. J. 11, Adam St., Strand, W.C.
Renner's (Dr.) Establishment, 186, Marylebone Road, N.W.
Somerville, R. & H. 10, Spring Gardens, Edinburgh

Medical and Scientific Newspapers, etc.

Analyst—Monthly 6d—Baillière and Co. King William Street, W.C.

Anatomy and Physiology, Journal of —24/- per annum—Williams & Norgate, Covent Garden

Annals of Surgery—Monthly 2/- — Cassell & Co. (Lim.) Ludgate Hill

Anthropological Journal—Quarterly 5/—Kegan, Paul & Co. Ludgate Hill

Asclepiad — Quarterly 2/6—Longmans & Co. Paternoster Row

Birmingham Medical Review — Monthly 1/—Hall & English, High Street, Birmingham

Botanical Magazine—Monthly 3/6 —Reeve & Co. 5, Henrietta St. Covent Garden

Botany, Journal of—Monthly 1/3— West, Newman & Co. 54, Hatton Garden

Brain—Quarterly 3/6—Macmillan & Co. Bedford Street, W.C.

Braithwaite's Retrospect — Half Yearly 6/6—Simpkin & Co. Stationers' Hall Court

Bristol Medico-Chirurgical Journal —Quarterly 1/6—J. W. Arrowsmith, Bristol

British and Colonial Druggist —Weekly 6d—21, New Bridge Street

British Gynæcological Journal — Quarterly 2/6—John Bale and Sons, Gt. Tichfield Street, W.

British Medical Journal—Weekly 6d—429, Strand, W.C.

Chemical Industry—Journal of Society of—Monthly 2/—Eyre & Spottiswoode, New Street, E.C.

Chemical News—Weekly 4d—Boy Court, Ludgate Hill, E.C.

Chemical Review—Monthly 1/—5, Furnival Street, E.C.

Chemical Society, Journal of the— Monthly, 30/- per annum—Gurney & Jackson, 1, Paternoster Row, E.C.

Chemist and Druggist, the—Weekly 10/- per annum—42, Cannon Street

Chemists and Druggists, Register of —Annual 5/—17, Bloomsbury Square

Clinical Journal—18, Middle Street, E.C.

Dental Association, Journal of British—Monthly 6d—11, Burlington Street

Dental Record—Monthly 6d—Little Windmill St. Golden Square

Dental Science—British Journal of —1st and 15th 6d—J. P. Segg & Co. 291, Regent Street, W.

Dentist's Register—Annually 3/9— General Medical Council, 299, Oxford Street, W.

Dermatology—British Journal of— Monthly—H. K. Lewis, 136, Gower Street, W.C.

Dublin Journal of Medical Science —Monthly 2/- —Fannin & Co.

Edinburgh Medical Jour. - Monthly 2/- —Oliver & Boyd, Edinburgh

Entomologist, Monthly Magazine— Monthly 6d — Gurney and Jackson, 1, Paternoster Row

Entomologist, Newman's—Monthly 6d—Simpkin & Co. Stationers' Hall Court

Geological Magazine—Monthly 1/6 —Kegan Paul & Co. Ludgate Hill

Geological Society, Journal of— Quarterly 5/— 14, Henrietta Street, W.C.

Geologist's Association's Proceedings—Quarterly 1/6—E. Stanford, 27, Cockspur Street

Glasgow Medical Journal—Monthly 2/—A. Macdougall, 81, Buchanan Street, Glasgow

Guy's Hospital Gazette—Fortnightly—42, Southwark Street

Guy's Hospital Reports—Yearly— J. & A. Churchill, New Burlington Street, W.

Health—Weekly 2d—2, Paternoster Square

Homœopathic Association (British) Annals of—Half-yearly 2/6— Kegan Paul & Co. Ludgate Hill

Homœopathic Review—Monthly 1/—E. Gould & Son, 59, Moorgate Street, E.C.

Homœopathic World—Monthly 6d—12, Warwick Lane

Hospital—Weekly 1d—428, Strand

Hygiene—Monthly 6d—39, Southampton Street, W.C.

Ibis, the—Quarterly 6/- —Gurney & Jackson, 1, Paternoster Row

Index Medicus—Annually 50/- —Kegan Paul & Co. Ludgate Hill

International Journal of the Medical Sciences—18/- per annum—Young J. Pentland, 38, West Smithfield

Irish Medical Directory—Annually 6/- —Baillière & Co. 20, King William Street, W.C.

Knowledge—Monthly 6d—326, High Holborn

Lancet—Weekly 7d—423, Strand, W.C.

Laryngology, Rhinology, & Otology, Journal of—Monthly 1/3—11, Adam Street, W.C.

Linnæan Society, Proceedings of—Annually 3/-—Longmans & Co.

Linnæan Society, Transactions—Irregular. Price varies—Society's Apartments, Burlington House

Liverpool Medical Chirurgical Journal—Half-yearly—H. K. Lewis, Gower Street, W.C.

Medical Annual—Annually 7/6—J. Wright & Co. Bristol

Medical Chronicle—Monthly 2/- —John Heywood, Manchester

Medical Directory—Annually 14/- —J. & A. Churchill, 11, New Burlington Street

Medical Magazine—Monthly 2/6—Southwood, Smith & Co. 4, King Street, E.C.

Medical Pioneer—Monthly—33, Paternoster Row, E.C.

Medical Press & Circular—Weekly 5d—A. A. Tindall, 20, King William Street

Medical Record—Bi-Monthly, 30/- per annum—Kegan Paul & Co. Ludgate Hill, E.C.

Medical Register—Annually 6/- —299, Oxford Street, W.

Medical Student's Register—Annually 1/2—229, Oxford St. W.

Medical Temperance Journal—Quarterly 6d—33, Paternoster Row

Medical Times & Hospital Gazette—Weekly—The Record Press (Lim.) 376, Strand

Mental Science, Journal of—Quarterly 3/6—J. and A. Churchill, 11, New Burlington Street

Meteorological Record—Quarterly—E. Stanford, 27, Cockspur Street, S.W.

Meteorological Society, Journal of—Quarterly 5/- —E. Stanford, 27, Cockspur Street, S.W.

Microscopical Science, Quarterly Journal of—10/- —J. and A. Churchill, New Burlington St.

Microscopy and Natural Science, Journal of—Quarterly 1/6—Baillière & Cox, King William Street

Mind—Quarterly 3/- —Williams & Norgate, Henrietta Street, W.C.

Monthly Extract of British Journal of Dental Science—Subscribers only—322, 324, Regent St., W.

Naturalist Gazette—Monthly—4, Ave Maria Lane, E.C.

Nature—Weekly 6d—Macmillan & Co. Bedford Street

Nervous and Mental Diseases—Quarterly, 21/- per annum—Kegan Paul & Co. Ludgate Hill

New Sydenham Society—Irregular—Subscription 21/- —H. K. Lewis, 136, Gower Street

New York Medical Journal—Monthly, 27/6 per annum—Kegan Paul & Co. Ludgate Hill

Nursing Directory—Annually—376, Strand

Nursing Record—Weekly 1d—Record Press (Lim.), 376, Strand, W.C.

Odontological Society, Transactions of—Monthly during Sessions 2/6—Bale and Son, 87, Great Tichfield Street

Ophthalmic Hospital Reports—Half Yearly 5/- —J. & A. Churchill, New Burlington Street

Ophthalmic Review—Monthly 1/—J. & A. Churchill, New Burlington Street

Ophthalmological Society's Transactions — Yearly — J. and A. Churchill, 11, New Burlington Street, W.

Ophthalmology, Archives of — Quarterly, 20/- per annum—Kegan Paul & Co. Ludgate Hill, E.C.

Otology, Archives of — Quarterly, 12/- per annum—Kegan Paul & Co. Ludgate Hill, E.C.

Pathology & Bacteriology, Journal of—Quarterly—Y. J. Pentland, West Smithfield, E.C.

Pharmaceutical Journal — Weekly 4d—J. & A. Churchill, 11, New Burlington Street

Pharmaceutical Society, Calendar of —Annually 1/- — 17, Bloomsbury Square

Pharmacy, Monthly Magazine of—Monthly 6d—Burgoyne, Burbidges & Co. 16, Coleman St. E.C.

Physiology, Journal of—21/- per volume—St. Tibb's Row, Cambridge

Practitioner — Monthly 1/6—Macmillan & Co. Bedford Street

Provincial Medical Journal — Monthly 6d—10, Friar Lane, Leicester

Psychical Research, Proceedings of Society for — Occasionally — Kegan Paul & Co. Ludgate Hill

Public Health—Monthly—E. W. Allen, Ave Maria Lane, E.C.

Quarterly Therapeutic Review—1/—Baiss Bros. & Co. 4, Jewry St.

Queckett Microscopic Club, Journal of—Half-yearly 2/6—Williams and Norgate, 14, Henrietta St.

Registrar General's Return of Births, Deaths & Marriages—Weekly, Quarterly & Annually — Eyre & Spottiswoode, 9, East Harding Street

Royal College of Surgeons' Calendar —Annually 1/- — Taylor and Francis, Red Lion Court, Fleet Street, E.C.

Royal Microscopical Society, Journal of—Bi-Monthly, 30/- per annum—Williams & Norgate, Henrietta St. Covent Garden

Sanitarian—Weekly 3d—Warwick Court, Holborn

Sanitary Institute, Transactions of —E. Stanford, 27, Cockspur St.

Sanitary Journal—Monthly 6/- per annum — A. Macdougall, 81, Buchanan Street, Glasgow

Sanitary Record—Monthly 10/- per annum—60, St. Martin's Lane, W.C.

Science Gossip — Monthly 4d — Chatto & Windus, 214, Piccadilly

Scientific American—Weekly, per annum 18/- —Kegan Paul & Co. Ludgate Hill

Scientific Review—Monthly 6d—Kent & Co. 21, Cockspur St.

Sheffield Medical Journal—Quarterly 2/—Pawson & Brailsford, Sheffield

St. Bartholomew's Hospital Reports —Yearly—15, Waterloo Place, S.W.

St. Thomas's Hospital Reports—Yearly—J. & A. Churchill, New Burlington Street, W.

Universal Medical Journal—F. J. Rebman, 11, Adam St., W.C.

Veterinarian—Monthly 1/6—Longmans & Co. 39, Paternoster Row

Veterinary Journal—Monthly 1/6—Baillière & Co. King William St.

Westminster Hospital Reports—Yearly—J. & A. Churchill, New Burlington Street, W.

Year Book of Pharmacy—Annually 10/—J. & A. Churchill, 11, New Burlington Street, W.

Year Book of Treatment—Annually 7/6—Cassell & Co.

Zoological Record—Annually 30/—Gurney & Jackson, Paternoster Row

Zoological Society of London, Proceedings—Quarterly 3/- plain; 12/- coloured—Longmans & Co. Paternoster Row

Zoologist—Monthly 1/- — Simpkin and Co. Paternoster Row

The Medical Annual Note Book.

It is easier to make a note of a thing, than to remember *where* the note was made. The following pages are indexed under their respective headings, and any note can be immediately found when required.

NOTES.

Copy here any formula or fact you wish to keep for reference. (These pages are indexed under the words "Notes.")

Zymine Peptonising Powders.

One tube in thirty minutes will give a pint of cow's milk all the characteristics and properties of mother's milk.

NOTES.

Kepler Solution of Cod Liver Oil in Extract of Malt.

Patients grow fat upon it when other forms of oil cause distress and pain.

NOTES.

Saccharine "Tabloids."

A harmless substitute for sugar in diabetes, possessing 300 times the sweetening power of cane sugar.

ADDRESSES (PRIVATE).

Kepler Extract of Malt

Is the best, richest in diastase, and most largely used.

NURSES.

Note whether Midwifery or Sick Nurse, their terms and private address

Kepler Essence of Malt.

An ideal Nutritive Beverage.

BOOKS OR INSTRUMENTS LENT.

"Tabloids" of Compressed Drugs.

"One cannot speak too highly of the medicines put up in the compact form of 'Tabloids.'"

DRUGS WANTED.

Voice "Tabloids."

Impart a clear and silvery tone to the voice.

DRUGS WANTED.

Pepsin (Fairchild).

Absolutely pure and extremely active.

INSTRUMENTS, APPLIANCES OR MATERIALS WANTED.

The B. W. & Co. Thermo-Safeguard Feeding Bottle.

Supplied with a Thermometer and graduated in ounces.

FOUNDED IN THE YEAR

1823

THE EDINBURGH LIFE

Assurance Company

has had a prosperous career extending over

SEVENTY YEARS.

During that Period it has issued more than

34,000 Policies Assuring upwards of **£20,000,000**

Paid in Claims - - - - **£5,750,000**

Distributed in Bonuses - - - **£2,000,000**

IT NOW HAS AN

Annual Income of upwards of - **£350,000**

AND HAS BUILT UP AN

Accumulated Fund of £2,750,000.

POLICIES NON-FORFEITABLE AND WORLD-WIDE.

Write for the Prospectus of the New "Edinburgh" Policy
WITH
Guaranteed Options suitable to Medical Men and others.

Head Office:—22, GEORGE STREET, EDINBURGH.
London Office:—11, KING WILLIAM STREET, E.C.

INDEX TO LIFE ASSURANCE OFFICES.

A, *when Established;* B, C, D, *Annual Premiums to Insure £100 on death with Profits, at the age of* 30, 40, *and* 50; E, *Assurance and Annuity Funds, exclusive of Paid-up Capital.* **M**, *Mutual Offices;* **P**, *Proprietary Offices.*

Those marked with an asterisk (*) in the E column have not sent revised figures for 1893.

Title, &c., of Office.	A	B	C	D	E
					£
Abstainers and General, Life and Accident, Colmore Chambers, Newhall Street, Birmingham. *Sec.* R. A. Craig, A.I.A. .. .. .. P	1883	40/11	55/10	82/3	48,826
Alliance, Fire and Life, Bartholomew Lane, E.C. *Sec.*, Robert Lewis .. .. .. P	1824	48/9	84/5	90/9	2,271,237
Atlas, Fire & Life, 92 Cheapside, E.C. *Act.*, George King. *Sec.*, S. J. Pipkin. *Ass. Sec.*, A. W. Yeo. *Further particulars see page* 688 .. P	1808	49/3	63/7	88/8	1,382,878
British Empire, Mutual Life, 4 & 5, King William Street, E.C. *Act.* and *Sec.*, G. H. Ryan M	1847	48/3	64/2	91/1	1,621,504
British Equitable, Life, 1, Queen Street Place, E.C. *Man. Dir. & Act.*, W. S. Gover, F.S.S., F.I.A. P	1854	49/-	66/-	94/3	1,335,501
British Workman's and General, Life and Endowments, Broad Street Corner, Birmingham. *Man.*, H. Port, F.S.A. *Further particulars see page* 687 P	1866	47/11	64/6	92/3	135,317
Caledonian, Fire and Life, 19, George Street, Edinburgh. *Man.*, D. Deuchar. London Office, 82, King William Street, E.C. .. .. P	1805	48/9	64/6	88/6	1,115,662
City of Glasgow, Life, 30, Renfield Street, Glasgow. *Man.*, F. F. Elderton. London Office, 12, King William Street, E.C. *Sec.*, J. Ballantyne P	1838	48/5	64/6	89/10	1,853,687
Clergy Mutual, Life, Endowments, &c., 2 & 3, Sanctuary, Westminster. *Sec.*, G. H. Hodgson M	1829	46/4	62/2	87/4	3,767,046
Clerical, Medical and General, Life, 15, St. James' Square, and Mansion House Buildings. *Act.*, B. Newbatt .. .. P	1824	48/9	65/-	90/9	3,021 667
Colonial Mutual, Life and Annuity, 33, Poultry. *Man.*, E. W. Browne. *A. Sec.*, B. H. Dames M	1873	44/8	60/9	86/2	1,522,597
Commercial Union, Fire, Life and Marine, 19 & 20, Cornhill, E.C. *Act.*, T. E. Young, B.A. P	1861	49/5	64/2	87/8	1,468,657
Co-operative, Fire, Life and Fidelity, Corporation Street, Manchester. *Man.*, James Odgers P	1867	45/10	61/8	87/6	6,784
Eagle, Life, 79, Pall Mall, S.W. *Act.* and *Sec.*, G. Humphreys, M.A., F.I.A. .. .. P	1807	50/8	65/5	91/4	2,483,746
Economic, Life, 6, New Bridge Street, Blackfriars. *Act.* and *Sec.*, G. Todd, M.A., F.I.A. M	1823	44/3	59/9	87/6	3,536,897
Edinburgh, Life and Annuities, 22, George Street, Edinburgh. *Man.*, G. M. Low, F.F.A. *Sec.*, A. Hewat, F.F.A., F.I.A. London Office, 11, King William Street, E.C. *Sec.*, Frank Griffith. *Further particulars see page* 682. .. P	1823	47/7	63/2	89/-	2,558.205
English and Scottish Law, Life, Annuity, Endowment, and Loan, 12, Waterloo Place, S.W. *Gen. Man*, Arthur Jackson. *Act.* and *Sec.*, F. E. Colenso, M.A., F.I.A. .. .. .. P	1839	48/8	64/6	90/-	1,723,929
Equitable Life Assurance Society, Mansion House Street, E.C. *Act.*, H. W. Manly .. M	1762	53/5	67/11	90/8	4.129,640
Equity and Law, Life, 18, Lincoln's Inn Fields, W.C. *Act.*, A. F. Burridge, F.I.A. .. .. P	1844	48/10	64/6	90/9	2,479,441
Friends' Provident, Life, Annuities, &c., Bradford, Yorkshire. *Act.* and *Sec.*, John Bell Tennant M	1832	45/9	58/1	79/3	2,246.354
General Life, 103, Cannon Street, E.C. *Man.* and *Sec.*, John Robert Freeman. *Further particulars see page* 690 .. .. .. P	1837	49/10	65/4	92/8	1,248,09[illegible]

A, *when Established*; B, C, D, *Annual Premiums to Insure £100 on death, with Profits, at the age of 30, 40 and 50*; E, *Assurance and Annuity Funds, exclusive of Paid-up Capital.* M, *Mutual Offices*; P, *Proprietary Offices.*

Title, &c., of Office.	A	B	C	D	E
					£
Gresham, Life, St. Mildred's House, E.C. *Act.* and *Man.*, T. G. Ackland, F.I A. . P	1848	49/-	65/8	94/3	4,941,207
Guardian, Fire and Life, 11, Lombard Street, and 21, Fleet Street. *Sec.*, T. G. C. Browne.. P	1821	48/10	64/6	89/3	2,595,000
Hand-in-Hand, Fire, Life and Annuities, 26, New Bridge Street, Blackfriars, E.C. *Man.*, B. Blenkinsop .. .. M	1696	50/8	68/10	99/3	2,522,199
Imperial, Life, 1, Old Broad Street, and 22, Pall Mall. *Act.* and *Man.*, J. Chisholm, F.I.A. P	1820	46/11	62/1	87/5	2,116,498
Lancashire, Life and Fire, Exchange Street, Manchester. *Gen. Man.*, Geo. Stewart. London Office, 14, King William St., E.C. *Sec.*, John Oliver P	1852	48/6	63/6	90/6	*862,639
Law Life, 187, Fleet Street. *Man.*, E. H. Holt. *Act.*, A. B. Adlard .. .. .. P	1823	49/4	64/10	91/-	3,775,736
Law Union and Crown, Life, Fire and Annuities, 126 Chancery Lane. *Gen. Man.*, A. Mackay .. P	1825	48/4	64/-	89/10	2,926,104
Legal and General Life, 10, Fleet Street, E.C. *Act.* and *Man.*, E. Colquhoun, F.I.A. .. .. P	1836	50/9	65/11	90/9	2,473,415
Life Association of Scotland, 82, Prince's Street, Edinburgh. *Sec.*, J. Sharpe. London Office, 5, Lombard Street. *Sec.*, J. C. Wardrop .. P	1838	50/-	65/4	93/4	*3 717,786
Liverpool and London and Globe, Fire, Life and Annuities, 1 Dale Street, Liverpool. *Sec.*, John M. Dove. London Office, 7, Cornhill, E.C. *Sec.*, A. Hendriks, F.I.A. .. .. .. P	1836	49/3	65/6	91/3	4,395,600
London Amicable, Life and Accident, 3, Regent Street, S.W. *Sec.*, Walter Wieland .. P	1887	47/10	63/5	91/4	49,723
London and Lancashire, Life, 66, Cornhill, E.C. *Man.* & *Act.*, W. P. Clirehugh. *Asst. Sec.*, G. W. Mannering .. .. P	1862	46/10	£2 4	86/10	819,548
London Assurance Corporation, Fire, Life and Marine, 7, Royal Exchange. *Act.*, A. H. Bailey, F.I.A. .. .. P	1720	49/6	64/11	91/5	2,006,573
London, Edinburgh and Glasgow, Life, Industrial, and Accidents, Farringdon Street, E.C. *Sec.*, T. V. Cowling .. .. .. P	1881	48/11	64/7	92/-	71,331
London Life Association, 81, King William Street, E.C. *Act.* and *Sec.*, C. D. Higham, F.I.A. M	1806	59/3	77/	107 6	4,161,164
Marine and General Mutual, Life and Marine, 14, Leadenhall Street, E.C. *Act.* and *Sec.*, S. Day, F.I.A. .. .. M	1852	48/10	65/11	91/11	646,854
Metropolitan Life, 13, Moorgate Street, E.C. *Act.*, Arthur Pearson .. .. .. M	1835	49/9	66/4	92/-	*1,985,797
Mutual Life, 39, King Street, Cheapside, E.C. *Act.* and *Man.*, G. Marks, F.I.A. *Sec.*, H. G. Rowsell .. .. M	1834	48/10	66/8	97/11	*1,235,801
National Assurance of Ireland, Fire, Life, and Annuities, 3, College Green, Dublin. *Act.* and *Sec.*, Harold Engelbach, London Office, 33, Nicholas Lane, E.C. *Res. Sec.*, Charles Smith .. P	1822	48/7	64/3	91/7	271,573
National Guardian, Life and Loans, 21, New Oxford Street, W.C. *Sec.*, Thomas J. Bourne .. P	1865	48/6	64/8	86 8	*9,435
National Life, 2, King William Street, City. *Act.* and *Sec.*, A. W. Sunderland. *Asst. Sec.*, H. J. Lockwood .. .. M	1830	50/4	65/9	92 8	842,354
National Provident, 48, Gracechurch Street, E.C. *Act.* and *Sec.*, Arthur Smither .. .. M	1835	50/2	66/3	91/1	4,673,865
North British & Mercantile, Fire, Life & Annuities, 61, Threadneedle Street, E.C., and 64, Prince's Street, Edinburgh. *Life Man.* and *Act.*, H. Cockburn, *Sec.*, F. W. Lance. *Further particulars see page 689* . .. .. P	1809	49/10	66/1	91 11	7,774,855
Northern Assurance, 1, Moorgate St.. E.C. *Gen. Man.*, James Valentine. *Sec.*, H. E Wilson P	1836	48/8	£4/10	92 4	2,627,441

A, *when Established*: B, C, D, *Annual Premiums to Insure £100 on death, with Profits, at the age of* 30, 40 *and* 50; E, *Assurance and Annuity Funds, exclusive of Paid-up Capital.* M, *Mutual Offices*; P, *Proprietary Offices.*

Title, &c., of Office.	A	B	C	D	E
					£
Norwich Union, Life, Norwich. *Sec.*, J. J. W. Deuchar. London Office, 50, Fleet Street, E.C. *Further particulars, see page* 717 .. M	1808	45/8	59/6	85/3	1,960,437
Patriotic Life and Fire, 9, College Green, Dublin. *Man.*, B. H. O'Reilly. *Act.*, Samuel Hunter. London Office, 19, King William St., E.C. *Man.*, W., W. Wainwright .. .. .. P	1824	48/8	64/5	90/4	127,588
Pearl, Life, London Bridge, City, E.C. *Man.*, P. J. Foley, M.P. .. .. P	1864	50/-	67/5	96/6	351,732
Pelican, Life, 70, Lombard Street, and 57, Charing Cross. *Sec.*, R. C. Tucker, F.I.A. .. P	1797	48/11	64/9	91/7	1,082,224
Positive Government Security, Life, 25, Abchurch Lane, E.C. *Man.* & *Act.*, A. G. Mackenzie, F.I.A., F.F.A. .. .. P	1870	47/1	64/7	94/3	446,927
Post Office, Life & Annuities, St. Martin's le Grand, *Act.*, A. Finlaison .. .. .. P	1865	46/7	62/9	89/10	—
Provident, Life, 50, Regent Street. *Sec.*, C. Stevens P	1806	50/2	66/4	92/10	*2,691,345
Provident Clerks, Life and Benevolent Fund, 27, Moorgate Street, E.C. *Sec.*, John E. Gwyer M	1840	46/4	62/8	92/2	*1,663,068
Prudential (Ordinary), Life, Holborn Bars. *Sec.*, W. J. Lancaster. *Further particulars, see page* 687 .. .. P	1848	49/6	65/11	91/11	6,701,124
Refuge, Industrial Life, 89, Corporation Street, Manchester. *Man.*, W. Proctor. London Office, 29, New Bridge Street. *Supt.*, W. Hewitt P	1864	49/3	65/9	91/9	*86,895
Reliance, Life, 71, King William Street. *Sec.*, E. C. Griffith .. .. M	1840	49/4	65/10	94/2	*754,833
Rock, Life and Survivorship, 15, New Bridge Street, E.C. *Sec.*, G. S. Crisford, F.I.A. .. P	1806	53/5	67/11	90/8	1,773,502
Royal, Fire, Life and Annuities, Royal Insurance Buildings, Liverpool. *Man.*, Chas. Alcock. London Offices, Lombard Street *Sec.*, John H. Croft .. .. P	1845	49/9	64/1	88/3	*4,730,357
Royal Exchange Assurance, Fire, Life, Annuities, &c., Royal Exchange, and 29, Pall Mall. *Act.*, H. E. Nightingale, F.I.A. .. . P	1720	49/2	64/11	92/4	*2,005,484
Sceptre, Life and Endowments. 40, Finsbury Pavement, E.C. *Sec.*, J. G. Phillips . .. P	1864	48/8	64/8	90/6	533,890
Scottish Amicable, Life, St. Vincent's Place, Glasgow. *Man.*, Robt. Blyth, C.A., F.F.A. *Sec.*, W. G. Spens .. .. M	1826	51/9	66/3	90/1	3,209,053
Scottish Equitable, Life, 26, St. Andrew Square, Edinburgh. *Man.*, T. B. Sprague, M.A., LL.D. *Sec.*, J. J. McLauchlan. London Office, 69, King William Street, E.C. *Sec.*, W. T. Gray M	1831	50/3	65/5	90/9	*3,504,744
Scottish Imperial, Life, 183, West George Street, Glasgow. *Man.*, T. Wilkinson Watson. London Office, 15, King William Street, E.C. .. P	1865	46/7	63/5	91/7	366,751
Scottish, Life, Accident and Annuities, 77, George Street, Edinburgh. *Sec.*, James Sorley, F.I.A. London Office, 20, King William Street, E.C. *Sec.*, George Struthers .. .. .. P	1881	49/5	64/6	90/5	206,608
Scottish Metropolitan, Life, 25, St. Andrew Square, Edinburgh. *Sec.*, W. R. Macdonald, F.F.A. London Office, 8, King Street, E.C. *Sec.*, E. T. Clifford .. .. P	1876	40/8	54/7	79/7	*144,821
Scottish Provident, Life and Annuities, 6, St. Andrew Square, Edinburgh. *Man.*, Jas. G. Watson. *Secs.*, J. Lamb and H. R. Cockburn. London Office, 17, King William Street E.C. *Sec.*, J. Muir Leitch M	1837	41/6	54/9	81/7	8,250,000
Scottish Temperance, Life and Accident, 81, Renfield Street, Glasgow. *Man.*, Adam K. Rodger. London Office, 3, King Street, Cheapside. *Man.*, W. A. Bowie ... . P	1883	48/6	63/9	89/10	142,908

A, *When Established*; B, C, D, *Annual Premiums to Insure £100 on death with Profits, at the age of 30, 40, and 50*: E, *Assurance and Annuity Funds, exclusive of Paid-up Capital.* M, *Mutual Offices*; P, *Proprietary Offices.*

Title, &c., of Office.	A	B	C	D	E
					£
Scottish Union and National, Fire, Life, and Annuities, 35, St. Andrew Square, Edinburgh. *Sec.*, J. K. Macdonald. London Office, 3, King William Street, E.C. *Sec.*, William Porteous.. P	1824	50/-	65/-	90/-	3,258 065
Scottish Widows' Fund, Life and Survivorship, 9, St. Andrew Square, Edinburgh. *Man. & Act.*, A. H. Turnbull. *Sec.*, J. J. P. Anderson. London Office, 28, Cornhill, E.C. *Sec.*, J. W. Miller .. .. .. M	1315	51/9	66/3	90 7	12,000,000
Standard Life, 3 and 5, George Street, Edinburgh. *Man* and *Act.*, S. C. Thomson. London Office, 83, King William Street, and 3 Pall Mall East. *Sec.*, J. H. W. Rolland .. : .. P	1825	48/11	64/5	89/-	7,370,600
Star, Life, Annuities, Endowments, 32, Moorgate Street, City. *Act.* and *Sec.*, H. G. Hobson P	1843	48/9	64/11	90/6	3,316,686
Sun, Life, 63, Threadneedle Street, E.C. *Act.*, H. C. L. Saunders, F.R.A.S., F.I.A. .. P	1810	49/2	66 6	94/2	2,934.424
Union, Fire and Life, Cornhill, and Baker Street. *Sec.*, C. Darrell .. .. .. P	1714	48/9	64/6	90/10	*1,826,501
United Kent, Life and Annuities, High Street, Maidstone. *Gen. Man.*, Walter L. Seyfang. London Office, 124, Cannon St., E.C. *Man.*, A. Wallis P	1824	49/8	64/3	90/5	483,307
United Kingdom Temp., &c, Life, 1, Adelaide Place, London Bridge. *Sec.*, Thomas Cash M	1849	43/10	64/11	50/6	5,323,864
Universal, Life, 1, King William Street, E.C. *Sec.* Fred. Hendriks, F.I.A.. .. .. P	1834	48/10	63/-	85/6	*1,057,865
University, Life, 25, Pall Mall, S. W. *Sec.*, H. W. Andras, F.I.A. .. .. .. P	1825	50/9	64/7	87/6	978,227
Victoria, Life and Endowment, Memorial Hall Buildings, Farringdon Street, E.C. *Sec.*, Arthur J. Cook, A.I.A. .. .. .. M	1860	49/3	65/7	93/-	66,218
Wesleyan and General, Life, Annuities, Sickness, Moor Street, Birmingham. *Gen. Man.* R. A. Hunt, F.S.S., A.I.A. London Office, 2, Finsbury Square, E.C. *Man.*, W. Syers .. M	1841	43/9	66/6	96/3	250,000
West of England, Fire and Life, Exeter. *Sec.*, E. H. Smithett. London Office, 20, New Bridge Street, E.C. *Man.*, G. Cooke .. .. P	1807	46/10	63/2	90/11	818,215
Westminster and General, Life, 28, King St., Covent Garden, W.C. *Act.*, Ernest Woods, F.I.A. P	1835	48/10	65/-	90/6	503,218
Yorkshire, Fire and Life, St. Helen's Square, York. *Sec.*, J. A. Cunninghame. London Office, 82, Old Bond Street, E.C. *Sec.*, J. M. C. Johnston P	1824	49/7	65/-	89/1	*615,660

For further particulars of Norwich Union Office, received too late for Classification, see page 717.

Prudential Assurance Company

(LIMITED),

HOLBORN BARS, LONDON.

DIRECTORS.

EDGAR HORNE, Esq., 17, Great George Street, Westminster, *Chairman.*
HENRY HARBEN, Esq., J.P., Seaford Lodge, Hampstead, *Deputy do.*
ROBERT BARNES, M.D., Lingwood, Lyss, Hampshire.
PATRICK FRASER, M.D., Stoke D'Abernon, Surrey (*Honorary*).
H. A. HARBEN, Esq., 1, New Square, Lincoln's Inn, London.
WILLIAM T. PUGH, Esq., Palmeira Mansions, West Brighton.
PERCY T. REID, Esq., Lloyd's, London.
J. W. SIMMONDS, Esq., J.P., York Road, Lambeth.
THOMAS WHARRIE, Esq., Eton Avenue, Hampstead.

Managers { THOMAS C. DEWEY, Esq.
WILLIAM HUGHES, Esq.

Sub-Manager—F. FISHER, Esq. *Actuary*—F. SCHOOLING, Esq.

Every Description of Life Insurance and Annuity Business Transacted.

INVESTED FUNDS EXCEED £18,000,000.

The last Annual and Valuation Reports can be obtained on application.

W. J. LANCASTER, *Secretary.*

For all kinds of LIFE & ENDOWMENT ASSURANCES

APPLY TO THE

BRITISH WORKMAN'S

ANNUAL INCOME over £330,000.

ESTABLISHED 1866.

AND GENERAL

Claims Paid Exceed £1,200,000. Funds (31/10/93) £174,679.

ASSURANCE COMPANY, Ltd.

Read the large number of Opinions of the Press; also the exhaustive address, figures and facts given by the Founder and Managing Director of the Company. To be had free of any of the Company's offices or representatives.

CHIEF OFFICES:

BROAD STREET CORNER, BIRMINGHAM.

ATLAS ASSURANCE COMPANY.

FIRE. *ESTABLISHED* 1808. LIFE.

HEAD OFFICE, LONDON—92, CHEAPSIDE, E.C.

DIRECTORS.

SIR WILLIAM J. W. BAYNES, BART., *Chairman.*
CHARLES ANDREW PRESCOTT, ESQ., *Deputy-Chairman.*

HERBERT BROOKS, ESQ.	JOHN OLIVER HANSON, ESQ.
JAMES PATTISON CURRIE, ESQ.	OSWALD CECIL MAGNIAC, ESQ.
WILLIAM COTTON CURTIS, ESQ.	EUGENE FREDK. NOEL, ESQ.
BENJAMIN BUCK GREENE, ESQ.	RICHARD BLANEY WADE, ESQ.
FREDERICK GREENE, ESQ.	PHILIP AINSLIE WALKER, ESQ.

MEDICAL OFFICER—BUXTON SHILLITOE, ESQ., F.R.C.S.
BANKERS—Messrs. PRESCOTT, DIMSDALE, CAVE, TUGWELL & CO., LIMITED.
ACTUARY—GEO. KING. ASST. SECRETARY—ALFD. W. YEO.
SECRETARY—SAML. J. PIPKIN.

BRANCHES:

LONDON, West End, 4, Pall Mall East, S.W.	LEEDS, 15, Park Row.
BIRMINGHAM, 9, Bennetts Hill.	LIVERPOOL, 1, Tithebarn Street.
BRISTOL, 20, Clare Street.	MANCHESTER, 24, Booth Street, Cooper St.

GLASGOW, 149. West George Street.

The GROWTH OF THE BUSINESS is shown by the following figures:

	FIRE PREMIUMS.	LIFE PREMIUMS.	TOTAL INCOME.
1883 -	£95,898 ..	£79,734 ..	£256,554
1892 -	301,079 ..	114,349 ..	489,970

Total Assets (31st December, 1892), £1,962,719

The Company has paid in Claims upwards of £12,000,000 sterling

LIFE DEPARTMENT.

Life Policies are granted under any one of the following six principal plans:

I.—**ORDINARY WITH PROFIT POLICIES,** at moderate rates, with large and progressively increasing bonuses.

II.—**POLICIES AT "COST PRICE,"** giving the largest possible Assurance at the smallest immediate outlay.

III.—**TONTINE INVESTMENT POLICIES** for a fixed sum during a term of years, and large accumulations of bonus at the end of that term.

IV.—**NON-PROFIT POLICIES,** of use principally in financial transactions.

V.—**DOUBLE ENDOWMENT ASSURANCES,** a safe and profitable investment for annual savings, or for those whose occupation would otherwise subject them to extra premium.

VI.—**RENEWABLE TERM POLICIES,** or temporary Assurances at minimum rates, renewable without fresh medical examination.

The **BONUSES** declared have always been very large, and there is every prospect of their continuing so, because all interest earned on the investments over and above 2½ per cent. will be available for the profit fund.

FIRE DEPARTMENT.

LOSSES OCCASIONED BY LIGHTNING will be paid whether the property be set on fire or not.

LOSS OR DAMAGE caused by Explosion of Coal Gas in any building insured will be made good.

SEVEN YEARS' POLICIES granted on payment of Six Years' premiums.

SAML. J. PIPKIN, *Secretary.*

NORTH BRITISH & MERCANTILE INSURANCE CO.

FIRE, LIFE, AND ANNUITIES.

Incorporated by Royal Charter and Special Acts of Parliament.

ESTABLISHED 1809.

Chairman of General Court—
RIGHT HON. SIR MATTHEW WHITE RIDLEY, BART., M.P.

LONDON DIRECTORS.

Chairman—Baron SCHRÖDER. *Deputy Chairman*—PASCOE DU PRE GRENFELL, Esq.

CHARLES MORRISON, Esq.
GEORGE GARDEN NICOL, Esq.
ALEXANDER H. CAMPBELL, Esq.
JOHN SANDERSON, Esq.
QUINTIN HOGG, Esq.
Hon. CHARLES W. MILLS.
Hon. CHARLES N. LAWRENCE.
ALEXANDER D. KLEINWORT, Esq.
GEORGE E. SCARAMANGA, Esq.
CHARLES J. C. SCOTT, Esq.

Manager of Fire Department—GEORGE HENRY BURNETT.
Manager of Life Department & Actuary—HENRY COCKBURN. *Secretary*—F. W. LANCE.
Medical Officers—HERMANN WEBER, M.D. and H. PORT, M.D.
Solicitors—BIRCHAM & Co. *Auditor*—JAMES HALDANE, Chartered Accountant.

LIFE DEPARTMENT.

THE PRINCIPLES on which this Company was founded, and on which it continues to act, combine the system of Mutual Assurance with the safety of a large Protecting Capital and Accumulated Funds. NINETY PER CENT. of the LIFE ASSURANCE PROFIT is divided among the Assurers on the Participating Scale. The PROFITS are divided every Five Years. The next division will take place on 31st December, 1895. Claims paid on proof of death and Title. Cheap and simple arrangements for Naval and Military Officers. POLICIES in most cases world-wide from the outset. ANNUITIES of all kinds are granted, and the rates fixed on the most favourable terms.

FIRE DEPARTMENT.

PROPERTY OF NEARLY EVERY DESCRIPTION, at Home and Abroad, Insured at most favourable Rates. Net Premiums for 1892 amounted to **£1,467,318 : 12 : 4.**

TOTAL ASSETS AT 31st DECEMBER, 1892, £11,141,294.

I.—Authorised Capital	£3,000,000 0 0		
Subscribed Capital	2,750,000 0 0		
Paid-up Capital		£687,500 0 0	
II.—Fire Funds—Reserves (including Balance of Profit and Loss Account)		2,678,938 12 2	
III.—Life Funds—Accumulated Fund of the Life Branch	£6,300,105 6 9		
,, ,, Annuity Branch	1,474,750 2 2		
		7,774,855 8 11	
		£11,141,294 1 1	

REVENUE FOR THE YEAR 1892.

From Fire Department—Net Premiums, Interest, &c.		£1,577,276 7 9	
,, Life Department—Net Premiums, Interest, &c.	£879,726 8 9		
Annuity Premiums (including £280,954 3s. cd. by single payments) and Interest	336,949 13 1		
		1,216,736 1 10	
		£2,794,012 9 7	

The Accumulated Funds of the Life Department are free from liability in respect of the Fire Department, and in like manner the accumulated Funds of the Fire Department are free from liability in respect of the Life Department.

Prospectuses and every information can be obtained at the Chief Offices.

LONDON: 61, Threadneedle St., E.C. EDINBURGH: 64, Princes St.
LONDON (West End Branch): 8, Waterloo Place, S.W.

GENERAL LIFE ASSURANCE CO.

ESTABLISHED 1837.

CAPITAL AND RESERVES, £2,400,000.

BOARD OF DIRECTORS.

Sir ANDREW LUSK, Bart., Chairman.
Principal ANGUS, D.D.
JOSEPH BOLTON DOE, Esq., J.P., D.L.
Lieut.-Col. F. D. GREY.
Most Hon. the MARQUIS of EXETER.
GEORGE PITT, Esq.
JAS. S. MACK, Esq., J.P.
Lord GILBERT KENNEDY.
Hon. R. C. GROSVENOR.
HENRY WILLIAM RIPLEY, Esq.
WILLIAM STRANG, Esq.
Rt. Hon. C. PELHAM VILLIERS, M.P.

DOUBLE ADVANTAGE POLICIES issued, securing **Two Payments** of the amount assured: one payment on the attainment of a specified age, and a second payment at death thereafter.

Advances made on Reversions, Life Interests, and on Personal Security in connection with a Life Policy.

A permanent reduction of Six Per Cent. made to the Medical Profession.

103, Cannon Street, London, E.C. JOHN R. FREEMAN, *Manager & Secretary.*

New and Second Edition.

A TREATISE ON

DISEASES OF THE NOSE

With much additional matter, in One Volume, post 8vo, with Chromo-lithographs, and over Sixty Illustrations, &c., price 10s. 6d.

By GREVILLE MACDONALD, M.D. Lond.,

Phys. to the Throat Hosp., Golden Square, W.; Assist. Phys. for Dis. of the Throat, and Lecturer on Dis. of the Throat and Nose, King's Coll. Hosp.

THE LANCET, June, 1892.

"It is distinctly an advantage to have an opportunity of studying the methods of diagnosis and of treatment which are followed by one who has had great facilities of working at this subject . . The book literally bristles with practical hints which can be applied by all who are willing to devote the time to acquire sufficient dexterity."

LIVERPOOL MEDICO-CHIRURGICAL JOURNAL, July, 1892.

"We consider the work a most complete and thoroughly practical account of the present state of rhinology."

A. P. WATT & SON, 2, Paternoster Square, LONDON, E.C.

INFLUENZA:

An Historical Survey of Past Epidemics in Great Britain from 1510 to 1880.

By E. SYMES THOMPSON, M.D., F.R.C.P.,

Gresham Professor of Medicine, and Consulting Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

PERCIVAL AND CO., KING STREET, COVENT GARDEN.

LEWIS'S STANDARD PUBLICATIONS.

Powell's Diseases of the Lungs and Pleuræ. *Fourth Edition.* 18*s.*

Gruber's Diseases of the Ear. By LAW and JEWELL. *Second Edition. Illustrations.* 28*s.*

Burnett's System of Diseases of the Ear, Nose and Throat. *Two Vols.* 48*s. net.*

Crocker's Diseases of the Skin. *Second Edition.* 24*s.*

Legg's Guide to the Examination of the Urine. By LEWIS JONES. *Seventh Edition.* 3*s.* 6*d.*

Allen's Handbook of Local Therapeutics. 14*s. net.*

Kenwood's Public Health Laboratory Work. 10*s.* 6*d.*

Strumpell's Text-book of Medicine. *Second Edition.* 28*s.*

Gray's Nervous and Mental Diseases. *Illustrations.* 21*s.*

Boyce's Text-book of Morbid Histology. *Coloured Plates.* 31*s.* 6*d.*

Roberts' Handbook of Medicine. *Eighth Edition.* 21*s.*

Ringer's Handbook of Therapeutics. *Twelfth Edition.* 15*s.*

Steavenson & Jones' Medical Electricity. 9*s.*

Buxton's Anæsthetics. *Second Edition.* 5*s.*

Wethered's Medical Microscopy. 9*s.*

Roosa's Diseases of the Ear. *Seventh Edition.* 25*s.*

Fuchs' Text-book of Ophthalmology. 21*s.*

Skene's Diseases of Women. *Second Edition.* 28*s.*

Williams' Cancer of the Uterus. *Plates.* 10*s.* 6*d.*

Parkes' Hygiene and Public Health. *Third Edition.* 10*s.* 6*d.*

Lewis's Pocket Medical Vocabulary. *Second Edition.* 3*s.* 6*d.*

Crookshank's Bacteriology. *Third Edition. Coloured Plates.* 21*s.*

Crookshank's History and Pathology of Vaccination. *Two Vols.* 36*s.*

Hill & Cooper's Syphilis. *Second Edition.* 18*s.*

Murrell's Massotherapeutics. *Fifth Edition.* 4*s.* 6*d.*

Murrell's What to do in Cases of Poisoning. *Seventh Edition.* 3*s.* 6*d.*

Carter's Elements of Medicine. *Sixth Edition.* 9*s.*

Swanzy's Diseases of the Eye. *Fourth Edition.* 10*s.* 6*d.*

Lusk's Science and Art of Midwifery. *Fourth Edition.* 18*s.*

Lewers' Diseases of Women. *Fourth Edition.* 10*s.* 6*d.*

Barrett's Dental Surgery. *Second Edition.* 3*s.* 6*d.*

Gould's New Medical Dictionary. 12*s.* 6*d.*

Pritchard's Diseases of the Ear. *Second Edition.* 5*s.*

Lewis's Temperature Charts. 50*s. per* 1,000. 7*s. per* 100*; or* 1*s. per doz.*

Lewis's Nursing Charts. 20 *for* 1*s.*; 100, 3*s.* 6*d.*; 1,000, 25*s.*, *post free.*

Lewis's Diet Charts. 6*s.* 6*d. per packet of* 100 *charts, by post* 6*s.* 10½*d.*

Chart for Recording the Examination of Urine. 40*s. per* 1,000*;* 25*s. per* 500*;* 15*s. per* 250*;* 7*s.* 6*d. per* 100*;* 1*s. per* 10.

*** **Catalogue of Mr. Lewis's Publications Post Free on application.**

LONDON : H. K. LEWIS, 136, GOWER STREET, W.C.

YOUNG J. PENTLAND'S LIST.

8vo, pp. xvi.—640, with Coloured Illustrations from Original Drawings, price 25s.

DISEASES OF THE THROAT, NOSE & EAR. By P. McBRIDE, M.D., F.R.C.P. Ed., Lecturer on the Diseases of the Ear and Throat, Edinburgh School of Medicine; Aural Surgeon and Laryngologist, Royal Infirmary, Edinburgh; Surgeon, Edinburgh Ear & Throat Dispensary. (*Pentland's Medical Series, Vol. III.*)

Third Edition, Revised and Enlarged, 8vo, Cloth, gilt top, pp. xx.—644, with Woodcut and 9 double-page Coloured Illustrations, price 21s.

DISEASES OF THE SKIN: A Manual for Students and Practitioners. By W. ALLAN JAMIESON, M.D., F.R.C.P. Ed., Extra Physician for Diseases of the Skin, Edin. Royal Infirmary; Cons. Phys., Edinburgh City Hospital; Lecturer on Diseases of the Skin, School of Med., Edinburgh. (*Pentland's Medical Series. Vol. I.*)

Now Ready. Second Edition, thoroughly Revised & Enlarged. 8vo, Cloth, pp. xvi.—728, Illustrated with Wood Engravings and Coloured Plates from original Drawings, price 25s.

DISEASES OF THE EYE. A Practical Treatise for Students of Ophthalmology. By GEORGE A. BERRY, M.B., F.R.C.S. Ed., Ophthalmic Surgeon, Edinburgh Royal Infirmary; Lecturer on Ophthalmology, Royal College of Surgeons, Edinburgh. (*Pentland's Medical Series, Vol. II.*)

Now Ready, Volume First, 8vo, pp. xvi.—650 or thereby, handsomely printed, Illustrated with full-page Plates and Engravings, price 12s. 6d. nett, carriage free.

EDINBURGH HOSPITAL REPORTS: In a Series of Clinical Papers and LECTURES. Published under the Supervision of a Committee representing the Various Institutions. Edited by G. A. GIBSON, M.D., D.Sc., C. W. CATHCART, M.A., M.B., JOHN THOMPSON, M.D., and D. BERRY HART, M.D.

Now Ready, two Volumes, Royal 8vo, Cloth, pp. xxiv.—1210, profusely Illustrated with Engravings in the text, and full-page Plates, price 30s. nett.

TEXT-BOOK OF SURGERY: For Practitioners and Students. By American Authors. Edited by WILLIAM W. KEEN, M.D., LL.D., and WILLIAM WHITE, M.D.

Third Enlarged and thoroughly Revised Edition, 8vo, Cloth, pp. xxiv.—652. Illustrated with 195 Coloured Plates from Original Drawings, price 25s.

PRACTICAL PATHOLOGY: A Manual for Students and Practitioners. By GERMAN SIMS WOODHEAD, M.D., F.R.C.P. Ed., Director of the Laboratories of the Royal Colleges of Physicians (London) and Surgeons (England).

Oblong 4to, Cloth, Illustrated with 27 Coloured Plates & Engravings in the text, price 50s. nett

ILLUSTRATIONS OF THE NERVE TRACTS IN THE MID AND HIND BRAIN AND THE CRANIAL NERVES ARISING THEREFROM. By ALEX. BRUCE, M.D., F.R.C.P. Ed., Lecturer on Pathology in the School of Medicine; Assistant Physician, Royal Infirmary, Edinburgh.

2 vols, large 8vo, pp. xvi.—1008, Illustrated with Maps and Charts, price 31s. 6d.

GEOGRAPHICAL PATHOLOGY: An Inquiry into the Geographical Distribution of Infective and Climatic Diseases. By ANDREW DAVIDSON, M.D., F.R.C.P. Ed., late Visiting and Superintending Surgeon, Civil Hospital, and Professor of Chemistry, Royal College, Mauritius.

Royal 8vo, Cloth, pp. xx.—1016, Illustrated with 7 full-page Plates, some Coloured, and 97 Engravings throughout the text. Price 31/6.

HYGIENE AND DISEASES OF WARM CLIMATES, in a Series of Articles by Eminent Authorities. Edited by ANDREW DAVIDSON, M.D., F.R.C.P. Ed., author of "Geographical Pathology."

The Articles are contributed by Professor Birch, Calcutta; Professor Notter, Netley; Fleet-Surgeon Coppinger, Haslar; Professor Whitehead, Netley; Dr. Bruce, Netley; Professor Sternberg, New York; Dr. Lubbock, London; Dr. Macnamara, London; Dr. Patrick Manson, London; Sir Joseph Fayrer, London; Professor Cayley, Netley; Professor Sonsino, Pisa; Dr. Andrew Davidson, &c.

Crown 8vo, Cloth, pp. xvi.—520, Illustrated with Charts, price 10s. 6d.

DISEASE IN CHILDREN: A Manual for Students and Practitioners. By JAMES CARMICHAEL, M.D., F.R.C.P. Ed., Phys. Royal Hospital for Sick Children; Univ. Lect. on Disease in Children, Edin. (*Pentland's Students' Manuals.*)

YOUNG J. PENTLAND,

Edinburgh: 11, Teviot Place. London: 38, West Smithfield, E.C.

A NEW WORK for MEDICAL STUDENTS & PRACTITIONERS.

DISSECTIONS ILLUSTRATED.

A Graphic Handbook for Students of Human Anatomy.

By C. GORDON BRODIE, F.R.C.S.,

Senior Demonstrator of Anatomy, Middlesex Hospital Medical School; Assistant Surgeon North-West London Hospital.

With Plates drawn and Lithographed by PERCY HIGHLEY.

IN FOUR PARTS.

Part I.—THE UPPER LIMB.—With Seventeen Coloured Plates, two-thirds natural size, and Ten Diagrams.

Imperial 8vo, Sewed in Wrapper, price 8s. 6d.

Contents.

PLATE.	PLATE.	PLATE.
I. The Axilla.	VII. The Front of Forearm, second view.	XIII. The Circumflex Nerve and Scapular Quadrilateral.
II. The Axilla, deep view.	VIII. The Front of Forearm, third view.	XIV. The Back of the Arm and Musculo-spiral Nerve.
III. The Brachial Plexus and Axillary Artery.	IX. The Palmar Fascia.	XV. The Superficial View of the Back of the Forearm.
IV. The Superficial Structures at the Bend of the Elbow	X. The Superficial Palmar Arch, &c.	XVI. The Deep View of the Back of the Forearm.
V. The Inner View of the Arm and Brachial Artery.	XI. The Deep Palmar Arch, &c.	XVII. The Dorsum of the Hand.
VI. The Front of Forearm, first view.	XII. The Back of the Shoulder.	

"The Plates are EXCEEDINGLY WELL DRAWN and placed on the stone . . . . the explanatory letterpress is clear and concise."—*The Lancet.*

"This work meets a distinct want."—*Edinburgh Medical Journal.*

"We have to call attention to the excellence of the work."—*Glasgow Medical Journal.*

"The scheme is admirably carried out and the plates most reliable."—*Guy's Hospital Gazette.*

"The work is excellent."—*Medical Reporter.*

Part II.—THE LOWER LIMB.—With Twenty Coloured Plates, two-thirds natural size, and Six Diagrams.

Imperial 8vo, Sewed in Wrapper, price 10/-.

Contents.

PLATE.	PLATE.	PLATE.
XVIII. Superficial View of the Front of Thigh, Saphenous Opening.	XXIII. Front of Leg and Anterior Tibial Artery.	XXXII. Soleus and Plantaris and Deep View of Space
XIX. Scarpa's Triangle.	XXIV. Dorsum of Foot.	XXXIII. Back of Leg, deep view.
XX. Front of Thigh, with Sartorius Cut.	XXV. Gluteus Maximus.	XXXIV. Sole of Foot, first view.
XXI. Deep View of Front of Thigh.	XXVI. Gluteus Medius.	XXXV. Sole of Foot, second view.
XXII. Inner Side, Knee and Popliteal Space.	XXVII. Gluteus Minimus.	XXXVI. Sole of Foot, third view.
	XXVIII. Sacral Plexus.	XXXVII. Sole of Foot, fourth view.
	XXIX. Hamstrings.	
	XXX. Adductor Magnus, &c.	
	XXXI. Popliteal Space, &c.	

"This work can be confidently recommended to those who wish at a glance to refresh their anatomical knowledge."—*British Medical Journal.*

"This very useful anatomical Atlas."—*Hospital.*

Part III.—THE HEAD, NECK, AND THROAT. [*Shortly.*

Part IV.—THE ABDOMEN. [*In preparation.*

TWELFTH EDITION. Revised throughout, with numerous additions, 822 pp., post 8vo, 10/6.

HOBLYN'S DICTIONARY

OF TERMS USED IN MEDICINE & THE COLLATERAL SCIENCES. Revised and Enlarged.

By J. A. P. PRICE, B.A., M.D., Oxon.,

Assist. Surg. to the Royal Berkshire Hospital; late Physician to the Royal Hospital for Children and Women.

The changes in the present edition are mainly those of addition, and the Editor hopes that the selection of several new words and phrases, more particularly those relating to bacteriology, will render the work even more useful than it has been in the past. The Greek κ has been invariably rendered by the letter "c" except where general usage has accepted the letter "k," as, for instance, in *kinetic, keratitis, &c.*; to paragraphs in which occur the names of celebrated physicians, surgeons, anatomists, &c., are appended the periods during which they lived.—*Preface.*

"This well-known work."—*The Lancet.*

"As a handy reference volume for the physician, surgeon and pharmacist it will prove invaluable."—*Pharmaceutical Journal.*

"From considerable experience of Hoblyn's Dictionary we are able to say that it has the rare merit of supplying in almost every case what you have a right to expect in consulting it."—*Glasgow Medical Journal.*

LONDON: WHITTAKER & CO., PATERNOSTER SQUARE.

Recently Published, with Illustrations, demy 8vo, 5s.

THE TREATMENT OF

LATERAL CURVATURE OF THE SPINE.

WITH APPENDIX ON THE TREATMENT OF FLAT-FOOT.

BY BERNARD ROTH, F.R.C.S.,

Fellow of Medical Society of London; Member of the Clinical and Pathological Societies and of the Medical Officers of Schools Association; Corresponding Member of the American Orthopedic Association.

Notices of the Press.

"The small volume before us will, however, be more convenient for study, and will be specially welcome as giving a more detailed account of the plan of treatment (the author) carries out than is to be found elsewhere. It is to be hoped, too, that the publication of this little book will do something to check the unscientific and often disastrous treatment of lateral curvature by spinal supports and prolonged rest."—*Lancet.*

"This book is a useful one."—*British Medical Journal.*

"(The author's) plan of improving the strength of the muscles by regular gymnastic exercise has certainly much to recommend it."—*Practitioner.*

"This is an interesting book on an interesting subject, written in a clear, incisive style, and utterly devoid of the literary garbage known as 'padding.'"—*Liverpool Medico-Chirurgical Journal.*

"The photographs in the first part are excellent."—*International Journal of Medical Sciences.*

LONDON: H. K. LEWIS, 136, Gower Street, W.C.

SCOTT & FERGUSON

AND

BURNESS & COMPY.,

MEDICAL, GENERAL AND COLLOTYPE

PRINTERS,

And Manufacturing Stationers,

14—18, CLYDE STREET, EDINBURGH.

The Eight Coloured Plates in this Volume were executed by us.

THE

BRISTOL

Medico - Chirurgical Journal.

Permanent Enlargement without increase of price.

PUBLISHED QUARTERLY. PRICE 1/6.

ANNUAL SUBSCRIPTION, POST FREE, 5/-.

EDITOR:

R. SHINGLETON SMITH, M.D., B.Sc.,

Physician to the Royal Infirmary, and Professor of Medicine in University College, Bristol;

With whom are associated

J. MICHELL CLARKE, M.A., M.D., Physician to the Bristol General Hospital, and Lecturer on Practical Physiology and Histology in University College, Bristol.

F. R. CROSS, M.B., F.R.C.S., Ophthalmic Surgeon to the Bristol Royal Infirmary, and Surgeon to the Bristol Eye Hospital.

W. H. HARSANT, F.R.C.S., Surgeon to the Bristol Royal Infirmary.

Subscribers' Names, Books for Review, Exchange Journals, Articles for notice in the Section of "Notes on Preparations for the Sick," and Orders for Advertisements should be sent to the Assistant-Editor, L. M. GRIFFITHS, 9, Gordon Road, Bristol.

BRISTOL: J. W. ARROWSMITH.
LONDON: J. & A. CHURCHILL.

THE

QUARTERLY MEDICAL JOURNAL.

FOR

YORKSHIRE AND ADJOINING COUNTIES.

ANNUAL SUBSCRIPTION, 6/6. SINGLE COPIES, 2/- EACH.

EDITED FOR THE PROMOTERS

BY

SIMEON SNELL, F.R.C.S., ED., &C.

ASSISTANT EDITORS—

D. BURGESS, M.A., M.B., CANTAB.
W. T. COCKING, M.D., LOND.
W. DALE JAMES, M.R.C.S.
ARTHUR J. HALL, B.A., M.B. CANTAB.

IN ASSOCIATION WITH

A. W. MAYO ROBSON, F.R.C.S., LEEDS.
P. BOOBBYER, M.B., M.S. DURH., NOTTINGHAM.
J. A. SOUTHERN, L.R.C.P., LOND., &C., DERBY.
PRIESTLEY LEECH, M.D., B.S. LOND., F.R.C.S. HALIFAX.
W. L. W. MARSHALL, M.R.C.S., HUDDERSFIELD.
B. A. WHITELEGGE, B.SC., M.D. LOND., WAKEFIELD.
W. H. JALLAND, F.R.C.S., YORK.
E. H. HOWLETT, F.R.C.S., HULL.
ADOLPH BRONNER, M.D., M.R.C.S., BRADFORD.
E. MANSEL SYMPSON, M.A., M.D. CANTAB., LINCOLN.

All communications relating to the literary part of the Journal, Books for Review, and Exchanges, should be directed to the EDITOR, 17, Eyre Street, Sheffield. Pharmaceutical Preparations, &c., intended for notice in the Journal, should be forwarded to Dr. W. T. COCKING, 277, Glossop Road, Sheffield.

All communications relating to Advertisements should be addressed to Dr. Arthur Hall, Glossop Road, Sheffield; or to the Printers, Messrs. J. Bale & Sons, 87—89, Great Tichfield Street, London, W.

SHEFFIELD: PAWSON & BRAILSFORD.
EDINBURGH & LONDON: YOUNG J. PENTLAND.
LONDON: JOHN BALE & SONS.

VOLUME VIII.

THE JOURNAL OF LARYNGOLOGY, RHINOLOGY AND OTOLOGY.

An ANALYTICAL RECORD of CURRENT LITERATURE RELATING TO THE THROAT, NOSE, AND EAR.

EDITED BY

R. NORRIS WOLFENDEN, M.D. Cantab.,

JOHN MACINTYRE, M.B. Glasgow,

AND

DUNDAS GRANT, M.A., M.D. F.R.C.S. Eng.,

WITH THE ASSISTANCE OF

Dr. BARCLAY J. BARON (Bristol) | Dr. SANDFORD (Cork).

AND WITH THE CO-OPERATION OF

Dr. RICARDO BOTEY (Barcelona)
Dr. BRYSON DELAVAN (New York)
Dr. DRAISPUL (St. Petersburg)
Dr. GRAZZI (Florence)
Prof. GUYE (Amsterdam)
Dr. HICQUET (Brussels)
Dr. MIDDLEMASS HUNT (Liverpool)
Dr. VALERIUS IDELSON (Berne)
Dr. JOAL (Paris)
Dr. KARWOWSKI (Warsaw)
Dr. LICHTWITZ (Bordeaux)
Dr. LUBET-BARBON (Paris)
Dr. JOHN N. MACKENZIE (Baltimore)
Dr. GEORGE W. MAJOR (Montreal)
Prof. MASSEI (Naples)
Dr. J. MICHAEL (Hamburg)
Dr. MILLIGAN (Manchester)
Dr. HOLGER MYGIND (Copenhagen)
Dr. PORTER (St. Louis)
Dr. W. ROBERTSON (Newcastle-on-Tyne)
Dr. SAJOUS (Philadelphia)
Dr. SEDZIAK (Warsaw)
Prof. E. RAMON DE LA SOTA (Seville)

Published Monthly.

F. J. REBMAN, 11, Adam Street, Strand, London.

ENTERED AT STATIONERS' HALL.

PRICE ONE SHILLING AND THREE PENCE.

Prepaid Annual Subscription, Thirteen Shillings, Post Free, or Three Dollars.

THE

MEDICAL MAGAZINE

A Monthly Review of Medicine, Surgery, and Allied Sciences.

EDITED BY GEORGE J. WILSON, M.A., M.D.,

With assistance in Special Departments.

Published on the First of the Month. Price 2/6, or 15/- Half Yearly, Post Free.

Editorial and Advertising Offices—

11, ST. BENET PLACE, GRACECHURCH STREET, LONDON, E.C.

Some Contributors to the "Medical Magazine"—

G. A. AMBLER, F.R.C.S.E.
DR. R. W. BURNET
SIR. C. A. CAMERON
DR. F. CLEMOW
DR. T. S. CLOUSTON
DR. J. A. COUTTS
DR. C. CREIGHTON
G. H. DE' ATH, L.R.C.P., M.R.C.S.
H. B. DONKIN, M.B.
DR. JAMES FINLAYSON
DR. C. FITZGERALD
DR. L. GILLESPIE
DR. GREENE, PASHA
DR. T. HARRIS, M.D., M.R C.P.
H. NELSON HARDY, F.R C.S.
TIMOTHY HOLMES, F.R.C.S.
DR. SOPHIA JEX-BLAKE
DR. W. HIME, B.A.
DR. A. A. KANTHACK
DR. N. KERR
DR. J. KESER
DR. T. M. LEGGE
DR. J. DIXON MANN
DR. H. MAUDSLEY, F.R.C.P.
DR. M. McHUGH
DR. C. A. MERCIER
SIR WILLIAM MOORE, K.C.I.E., Q.H.P.
DR. THOMAS MORE-MADDEN
GEORGE PERNET, M.R.C.S.
DR. L. PHILLIPS
DR. G. V. POORE
M. ARMAND RUFFER
R. SAUNDBY, M.D., F.R.C.P.
DR. G. H. SAVAGE
DR. R. SISLEY
R. D. R. SWEETING, M.A., D.P.H.
SIR W. TURNER
DR. VAN EEDEN
F. WARNER, M.B., M.R.C.P.
DR. SAMUEL WILKS
DR. BERTRAM C. A. WINDLE

PUBLISHED BY

SOUTHWOOD, SMITH, & CO.,

4, King Street, Cheapside, LONDON, E.C.

THE

BIRMINGHAM MEDICAL REVIEW:

A MONTHLY JOURNAL OF THE MEDICAL SCIENCES.

64 pp., price 6/- per annum, post free.

EDITED BY

JAS. W. RUSSELL, M.D. CANTAB., M.R.C.P.,

AND

O. J. KAUFFMANN, M.D. LOND., M.R.C.P.

Assisted by the following Editorial Committee:—

GILBERT BARLING, M.B., F.R.C.S.
H. LANGLEY BROWNE, F.R.C.S.
PAUL M. CHAPMAN, M.D., M.R.C.P.
W. CHARNLEY, M.D.
W. COLLIER, M.B., F.R.C.S.
EDWARD DEANESLY, M.D., F.R.C.S.
HENRY EALES, M.R.C.S.
FRED. EDGE, M.D., F.R.C.S.. M.R.C.P.
ARTHUR FOXWELL, M.D., F.R.C.P.
F. M. HAIG, M.D.
W. F. HASLAM, F.R.C.S.
GEO. HEATON, M.B., F.R.C.S.
A. BOSTOCK HILL, M.D.
C. J. LEWIS, M.D.
JORDAN LLOYD, M.B., F.R.C.S.
ALBERT LUCAS, F.R.C.S.
C. A. MACMUNN, M.D.
H. MANLEY, M.B.
FRANK MARSH, F.R.C.S.
CHRISTOPHER MARTIN, M.B., F.R.C.S.
BENNETT MAY, M.B., F.R.C.S.
J. T. J. MORRISON, M.B., F.R.C.S.
E. N. NASON, M.B.
LLOYD OWEN, F.R.C.S.I.
J. PIETERSEN, L.R.C.P., M.R.C.S.
C. E. PURSLOW, M.D.
GUTHRIE RANKIN, M.D., F.R.C.P.
J. R. RATCLIFFE, M.B.
GEO. REID, M.D.
ROBERT SAUNDBY, M.D., F.R.C.P.
T. SYDNEY SHORT, M.D., M.R.C.P.
ROBERT M. SIMON, M.D., M.R.C.P.
J. LIONEL STRETTON L.R.C.P., M.R.C.S.
C. W. SUCKLING, M.D., M.R.C.P.
LAWSON TAIT, M.D., F.R.C.S.
JOHN W. TAYLOR, F.R.C.S.
THOMAS W. THURSFIELD, M.D., F.R.C.P.
T. LAW WEBB, L.R.C.P., M.R.C.S.
E. WOOD WHITE, M.B.
E. T. WILSON, M.B., F.R.C.P.
T. STACEY WILSON, M.B., M.R.C.P.
THOS. WILSON, M.D., F.R.C.S.

THIS Journal has now been in existence for twenty years and has recently obtained a large increase in its circulation. It will be found to be an excellent medium for advertising all matters of interest to the Medical Profession, not only in the Midland district but throughout the country.

The Scale of Charges for Advertisements is— Whole Page 21/-, ½-Page 12/-, ⅓-Page 10/-; this is subject to a discount of 25 per cent. for twelve months' insertions.

All business communications to be addressed to the Publishers—

HALL & ENGLISH, *Printers*,
No. 71, HIGH STREET,
BIRMINGHAM.

THE

INDIAN
Medico-Chirurgical Review

A MONTHLY JOURNAL AND REVIEW OF INDIAN AND FOREIGN MEDICINE AND ALLIED SCIENCES.

EDITED BY

N. H. CHOKSY,

Medical Officer in Charge, Homeless Leper Asylum, Matunga and Municipal Hospital for Infectious Diseases; and Surgeon to the Municipal Fire Brigade, Bombay.

Price 1/6. Annual Subscription *(including postage)*, **16/-.**

CONTENTS.

Original Articles; Bombay Post-Graduate Lectures; Reports of Local and other Medical Societies; Special Articles on Sanitation in India; Reviews and Notices of Books, &c.; Leading Articles and Editorials on Scientific and Local Subjects; and an extensive selection from current Medical Literature of India, Europe, America and Australia.

TO ADVERTISERS.—The "Indian Medico-Chirurgical Review" is an excellent medium for attracting the attention of the Indian Medical Profession, as it has a very wide circulation in all parts of India.

All communications regarding the Journal to be addressed to

MESSRS. BAILLIÈRE, TINDALL & COX,
KING WILLIAM STREET, STRAND, LONDON;

or to the Office of the Journal situated at TARDEO, BOMBAY. (INDIA.)

THE LANCET FOR 1894.

THE LANCET for 1894 will contain LEADING ARTICLES and ANNOTATIONS on Professional, Scientific, Social, and General Topics; copious Abstracts and numerous verbatim Reports of LECTURES relating to Medicine, Surgery, Obstetrics, and cognate subjects; ORIGINAL ARTICLES contributed by Medical Men residing in all parts of the world; CLINICAL NOTES on cases possessing features of interest from a Medical, Surgical, Obstetrical, or Therapeutical point of view; the HOSPITAL MIRROR of interesting and instructive cases of Disease and Injury coming under the observation of Physicians and Surgeons in British and Foreign Hospitals; REVIEWS and NOTICES of BOOKS, English and Foreign; Descriptions of NEW INVENTIONS relating to the Profession or calculated to promote the Public Health; Reports of COMMISSIONS, ANALYTICAL, SANITARY, and GENERAL, issued for the purpose of exposing evils and defects injurious to the health and well-being of particular classes of the people or of the community at large; ANALYTICAL REPORTS of Drugs, Foods, Beverages, &c.; a Record of PHARMACOLOGICAL PROGRESS and RESEARCH; Comments on and Analyses of the REPORTS of MEDICAL OFFICERS of HEALTH and SANITARY AUTHORITIES, together with Special Articles on HYGIENIC MATTERS; a Record of the MILITARY, NAVAL, and VOLUNTEER MEDICAL SERVICES; also of Affairs of Medical Interest dealt with by PARLIAMENT; OBITUARY NOTICES of Deceased Members of the Profession; Discussion of Questions affecting the ETHICS of the Profession; MEDICAL NEWS; and CORRESPONDENCE.

THE LANCET is, without increased cost to Subscribers, permanently enlarged to **ONE HUNDRED AND TWENTY PAGES**, giving additional space for Scientific Contributions, and for Announcements in its Advertisement columns.

A first issue is made, for the Wholesale Houses only, at Half-past Six o'clock on Friday morning, to facilitate the delivery in the provinces soon after the arrival of early trains.

Contributors can now arrange for reprints of their articles.

Lectures, Original Articles, and Notices of Inventions are fully illustrated with Coloured Plates, Engravings, and Woodcuts when desirable.

Arrangements in the Advertisement Department are made for facilitating the reception and forwarding of Answers in reply to Advertisements appearing in *THE LANCET*.

The Proprietors will continue to pay the postage surcharge upon overweight Foreign Editions, without any increase in the rate of Subscription.

The INDEX to ADVERTISEMENTS, with NAMES of ADVERTISERS, and the purport of their announcements, a plan originating with this Journal, has been found to be highly appreciated, and will be continued.

The Price of "THE LANCET" is 7d. weekly, post free 7½d.

SUBSCRIPTION.

Post free to any part of the United Kingdom.

One Year	£1 12 6
Six Months	0 16 3
To the Continent, Colonies, United States, China, India, and all places Abroad.	
One Year	1 14 8

Post Office Orders to be addressed to WAKLEY & SON, 423, Strand, London, and made payable to them at the Bedford street Money Order Office.

Cheques to be crossed "London and Westminster Bank."

ADVERTISING.

Books and Publications	£0 5 0
Official & General Announcements	0 5 0
Trade and Miscellaneous Advertisements (Seven Lines and under.)	0 4 6
Every additional Line	0 0 6
Front Page (min. 5s.), per Line	0 1 0
Quarter Page	1 10 0
Half a Page	2 15 0
An Entire Page	5 5 0

The Publisher cannot hold himself responsible for the return of testimonials, &c., sent to the Office in reply to Advertisements; copies only should be forwarded.

NOTICE.—Advertisers are requested to observe that it is contrary to the Postal Regulations to receive at Post Offices letters addressed to initials only.

Advertisements (to ensure insertion the same week) should be delivered at the Office not later than Wednesday, accompanied by a remittance.

Terms for Serial Insertions may be obtained of the Publisher, to whom all letters relating to Advertisements or Subscriptions should be addressed.

THE LANCET can be obtained and Advertisements received at all Messrs. W. H. SMITH & SON'S Railway Bookstalls, and of all Booksellers & Newsagents throughout the world.

Agent for the Advertisement Department in France—J. ASTIER, 8, Rue Traversiere Paris.

LIVINGSTONES' MEDICAL HANDBOOKS.

SYMINGTON'S TOPOGRAPHICAL ANATOMY OF THE CHILD	£2 2s.
EDINBURGH MEDICAL SCHOOL CALENDAR, by post	2/3
GREVILLE'S CHEMISTRY, with Tables, *2nd Edition*	6/-
MILNE'S MIDWIFERY, *2nd Edition*	12/6
HUSBAND'S (AUBREY) FORENSIC MEDICINE AND PUBLIC HEALTH, *5th Edition*	10/6
Do. PRACTICE OF MEDICINE, *4th Edition*	7/6
Do. POCKET PRESCRIBER	1/-
Do. EXAMINATION OF THE URINE, *2nd Edition* net	1/-
HUGHES' MOTOR NERVES	1/-
Do. NERVES OF THE HUMAN BODY	7/6
Do. MANUAL OF SURGICAL ANATOMY net	4/6
CROOM'S MINOR GYNÆCOLOGICAL OPERATIONS, *2nd Edition*	6/-
CRAIG'S MATERIA MEDICA. *5th Edition*	6/-
Do. POSOLOGICAL TABLES, *New Edition* net	1/-
M'LACHLAN'S APPLIED ANATOMY, SURGICAL, MEDICAL, AND OPERATIVE, *3rd Edition*, 2 VOLS.	18/-
WHITAKER'S THE BRAIN AND SPINAL CORD, with plates, *2nd Edition* net	5/-
Do. NOTES ON PATHOLOGY, GENERAL net	4/6
ANATOMY—(*Catechism Series*)—Part 1, UPPER EXTREMITY; Part 2, LOWER EXTREMITY; Part 3, HEAD AND NECK; Part 4, ABDOMEN; Part 5, THORAX; Part 6, BONES AND JOINTS net each	1/-
PUBLIC HEALTH—(*Catechism Series*)—Part 1, WATER; Part 2, AIR AND VENTILATION; Part 3, SEWAGE; Part 4, VITAL STATISTICS; Part 5, MEDICINE, FOOD, &c. net each	1/-
QUESTIONS IN MEDICINE—Two Parts each, net	1/-
CHEMISTRY—(*Catechism Series*)—Two Parts each, net	1/-
PHYSIOLOGY—(*Catechism Series*)—Parts 1, 2, and 3 each, net	1/-
WEBSTER'S PUBERTY AND THE CHANGE OF LIFE net	1/-
MATERIA MEDICA—(*Catechism Series*)—Four Parts each net	1/-
JOHNSTONE'S BOTANY NOTES, *4th Edition* net	2/-
Do. ZOOLOGY NOTES net	3/6
MARTIN'S YELLOW FEVER net	4/-
HANDBOOK OF GYNECOLOGY, Illustrated	5/-
WHEELER'S PRACTICE OF MEDICINE (*Just out*)	10/6

E. & S. LIVINGSTONE,

Booksellers and Publishers, 15, Teviot Place, EDINBURGH.

Third Edition. Adapted to the New British Pharmacopœia, 1885. Medium 8vo. Price 21s.; or in 2 vols., 22s. 6d.

A TEXT-BOOK OF PHARMACOLOGY, THERAPEUTICS, AND MATERIA MEDICA.

By T. LAUDER BRUNTON, M.D., D.Sc., F.R.S., Fellow of the Royal College of Physicians; Assistant Physician and Lecturer on Materia Medica at St. Bartholomew's Hospital; Examiner in Materia Medica in the University of London, in the Victoria University, and in the Royal College of Physicians, London; late Examiner in the University of Edinburgh. Adapted to the United States Pharmacopœia by F. H. WILLIAMS, M.D., Boston, Mass.

"It is simply a mine of wealth both for students and practitioners. It is thoroughly practical and thoroughly reliable . . . is undoubtedly the best treatise on the subject in the English language."—*British Medical Journal.*

"A work which marks a distinct epoch, a turning-point in the history of medicine. It is not a mere compilation, . . . but it is essentially a new departure, breaking away from well-worn tracks into a new and almost unknown region."—*Medical Times and Gazette.*

By the same Author.

DISORDERS OF DIGESTION: THEIR CONSEQUENCES AND TREATMENT.

This work contains, in addition to the Lettsomian Lectures, a number of other papers by the Author on similar subjects. 8vo, 10s. 6d.

"Distinguished by accurate observation and original thinking, these papers have been largely instrumental in moulding current medical opinion in regard to many of the subjects with which they are concerned."—*Edinburgh Medical Journal.*

"We can cordially recommend the volume, as one which combines much practical and technical information and sound common sense."—*London Medical Record.*

INTRODUCTION TO MODERN THERAPEUTICS.

Being the Croonian Lectures on the connection between Chemical Structure and Physiological Action in Relation to the Prevention, Control and Cure of Disease. 8vo, 3s. 6d. Net.

MACMILLAN & CO., LONDON.

MEDICAL TRANSFER & PARTNERSHIP,

32, LUDGATE HILL, E.C.

MESSRS. ORRIDGE & CO.,

Medical Transfer Agents, Referees and Valuers, in offering their services to the Profession, have pleasure in referring to the fact, that for about HALF A CENTURY the name of Mr. Orridge has been known in the advertising columns of the leading Medical Journals, and that a very large proportion of the Medical men throughout the kingdom have confided their interests in the adjustment of Partnerships and Transfers to their care.

Purchasers who will communicate (confidentially) the nature and extent of their wishes regarding investments can be apprised of appropriate opportunities as they occur.

On occasions where advice is required in forming a correct conclusion as to the worth or eligibility of a Practice, Messrs. Orridge & Co. trust that their familiarity with the various contingencies that govern value will be found of considerable service to those by whom they may be employed.

*** N.B.—No charge is made to Purchasers.

DEFECTS OF SPEECH.

Stammering, Stuttering, Lisping, Defective Articulation, caused by Cleft Palate, etc., etc.

Mr. WILLIAM VAN PRAAGH'S System for the cure of the above Defects of Speech, both ACQUIRED and CONGENITAL.

FOR INFORMATION APPLY TO

MR. WILLIAM VAN PRAAGH,

11, FITZROY SQUARE, LONDON, W.

PERSONAL INTERVIEWS BY APPOINTMENT.

SELECTED PAPERS IN GYNÆCOLOGY & OBSTETRICS. D. BERRY HART, M.D., etc. 10/6. Just published.

ATLAS OF FEMALE PELVIC ANATOMY. D. BERRY HART, M.D., etc. 42/-.

CONTRIBUTIONS TO THE SECTIONAL ANATOMY OF THE FEMALE PELVIS By the same Author. 12/6.

A PRACTICAL TREATISE ON THE SPUTUM. G. HUNTER MACKENZIE, M.D. 10/6.

GOTTSTEIN'S DISEASES OF THE LARYNX. Translated by P. McBRIDE, M.D., etc. 8/6.

A GUIDE TO THE STUDY OF EAR DISEASE. P. McBRIDE, M.D., etc. 7/6.

STUDENT'S ATLAS OF BONES AND LIGAMENTS. C. W. CATHCART, M.B., etc., and F. M. CAIRD, M.B., etc. 15/-.

A POPULAR ATLAS OF HUMAN ANATOMY AND PHYSIOLOGY. Professor Sir WILLIAM TURNER. 25/-.

W. & A. K. JOHNSTON,

Edina Works, Easter Road, and 16, South St. Andrew Street, Edinburgh; 5, White Hart Street, Warwick Lane, London, E.C.

An English Doctor in INDIA writes:—"We look forward to THE HOSPITAL GAZETTE with much interest."

The Cheapest and most readable Weekly Medical Journal.

TWENTY-SECOND YEAR OF ISSUE.

THE

MEDICAL TIMES AND HOSPITAL GAZETTE.

A WEEKLY JOURNAL OF MEDICINE AND SURGERY FOR PRACTITIONERS AND STUDENTS.

The Official Journal of the Medical Practitioners' Association.

ENLARGED AND IMPROVED.

Published every Saturday. Price Twopence. Post Free 2½d.

THE MEDICAL TIMES AND HOSPITAL GAZETTE is the cheapest weekly Medical Journal in the United Kingdom, and will be found to contain all the Medical News of the week, written in a most readable and attractive style.

A feature of especial value to medical men in busy practice is the

RETROSPECTIVE SUMMARY OF MEDICINE AND SURGERY,

Consisting of abstracts of the more important papers and articles which have been published in the leading British and Foreign Medical Journals. The Retrospect is Edited by Mr. GEORGE BROWN, M.R.C.S. Eng., Gold Medallist in Medicine, Surgery, etc., author of "Aids to Surgery," "Aids to Anatomy," etc.

The Summary is invaluable to medical men who have not the opportunity or leisure to read other medical journals, as it enables them to keep in touch with all the advances in medicine, surgery and therapeutics.

Annual Subscription, including postage, for the United Kingdom, 8/-, *For Places Abroad*, 12/6.

Specimen Copy sent post free on receipt of post card giving name and address.

APPLY TO THE MANAGER,

THE MEDICAL TIMES & HOSPITAL GAZETTE,

11, Adam St., Strand, LONDON, W.C.

GRIFFIN'S MEDICAL SERIES.

NEW VOLUMES.

In Large 8vo. FULLY ILLUSTRATED.

FORENSIC MEDICINE AND TOXICOLOGY. By J. DIXON MANN, M.D., Prof. of Medical Jurisprudence, Owens College, Manchester. 21s.

"By far the **most reliable, most scientific,** and **most modern** work on Medical Jurisprudence with which we are acquainted."—*Dublin Medical Journal.*

DISEASES OF THE HEART (Diagnosis of). By A. E. SANSOM, M.D., F.R.C.P., Physician to the London Hospital, &c. With Illustrations and 13 Plates. 28s.

"A work which does **credit** to British Scientific Medicine."—*The Lancet.*

RUPTURES (A Treatise on). By J. F. C. MACREADY, F.R.C.S., Surgeon to the Great Northern Central Hospital, to the City of London Truss Society, &c. With 24 Lithographed Plates and Illustrations in the text. 25s.

"Certainly by far the **most complete** and **authoritative** work on the subject. We conscientiously recommend it to all who have to deal with the affection of which it treats."—*Edinburgh Medical Journal.*

THE DISEASES OF CHILDHOOD (Medical). By H. BRYAN DONKIN, M.A., M.D., F.R.C.P., Physician, East London Hospital for Children; Physician and Lecturer on Clinical Medicine, Westminster Hospital. 16s.

"In every sense of the word a **fresh** and **original** work; recording the results of the author's **own large experience.**"—*The Lancet.*

GRIFFIN'S STANDARD HANDBOOKS.

NEW VOLUMES.

A MEDICAL HANDBOOK. By R. S. AITCHISON, M.B., Edin., F.R.S.E. Pocket size, in Leather, 8s. 6d. With numerous Illustrations. Second Edition.

"Such a work as this is really **necessary** for the busy practitioner. . . . He needs to refresh and revise his knowledge, and to focus his mind on those things which are **essential.** We can speak **highly** of Dr. Aitchison's Handbook. . . . **Honestly executed.** . . . No mere compilation; the scientific spirit and standard maintained throughout put it on a higher plane. . . . **Excellently** got up, handy and portable, and well adapted for **ready reference.**"—*The Lancet.*

CONSUMPTION (the Hygienic Prevention of). By J. ED. SQUIRE, M.D., D.P.H., Physician, North London Hospital for Consumption. With Frontispiece in Colours, 6s.

MIDWIFERY (An Introduction to the Study of). By ARCH. DONALD, M.A., M.D., C.M., Surgeon to St. Mary's Hospital for Women and Children, Manchester. With numerous Illustrations, 5s.

THE DISEASES OF WOMEN (Outlines of). By JOHN PHILLIPS, M.A., M.D., F.R.C.P., Physician, British Lying-in Hospital, &c. With Illustrations, 7s. 6d.

"Dr. **Phillips** throughout is **very trustworthy.** He supplies an excellent series of **valuable prescriptions**—just what the student requires."—*British Medical Journal.*

ANÆSTHETICS AND THEIR ADMINISTRATION. By F. HEWITT, M.A., M.D., Anæsthetist and Instructor in Anæsthetics, London Hospital, &c. Illustrated, 10s. 6d.

"Should be on **every medical bookshelf.**"—*The Practitioner.*

London: CHAS. GRIFFIN & Co., Ltd., Exeter St., Strand.

45

THE SCIENTIFIC PRESS LIST.

Some Books on Medicine, Nursing & Allied Subjects

PUBLISHED BY

THE SCIENTIFIC PRESS, Ltd.,

LONDON: 428, STRAND, W.C.

Full Catalogue of the Company's Publications will be forwarded, post free, to Applicants.

IMPORTANT NEW HAND-BOOK OF MIDWIFERY.

18mo, profusely illustrated with Original Cuts, Tables, etc.; about 260 pp., handsomely bound in Leather, price 6s.

A PRACTICAL HAND-BOOK OF MIDWIFERY. By FRANCIS W. N. HAULTAIN, M.D. A practical manual produced in a portable and convenient form for reference. Both to the Profession and to Students and to Midwives and Nurses it is recommended for its compactness, conciseness, and clearness.

Demy 8vo, about 400 pp., illustrated (in the press).

MEDICAL HISTORY FROM THE EARLIEST TIMES. By E. T. WITHINGTON, M.A., M.B., Oxon. An exhaustive history, treated in an interesting manner, and likely to be of exceptional interest to members of the Profession and Students.

Demy 8vo, 200 pp., Cloth Boards, copiously illustrated, price 3s. 6d. (post free).

SURGICAL WARD-WORK & NURSING. By ALEXANDER MILES, M.D. (Edin.), C.M., F.R.C.S.E. A practical manual of clinical instruction for Students and Nurses in the Wards. Concisely, though comprehensively treated.

Crown 8vo, 200 pp., illustrated, price 3s. 6d. (post free).

OPHTHALMIC NURSING. By SYDNEY STEPHENSON, M.B., F.R.C.S.E., etc. A valuable treatise on a subject as yet but little written upon. The work contains glossary of terms, list of instruments, etc., and is illustrated by Original Woodcuts.

Demy 8vo, Cloth Gilt, 260 pp., price 3s. 6d. (post free).

ART OF FEEDING THE INVALID. By a MEDICAL PRACTITIONER and a LADY PROFESSOR OF COOKERY. A popular treatise on the most frequent disorders; with detailed list of suitable diet and original recipes for daily use. This important work has been undertaken to supply a want long felt by Matrons and Lady Superintendents in Hospitals and Institutions of all kinds where invalids are treated, as well as in private households. It is of the greatest value to Nurses in private practice.

Foolscap 8vo, Cloth Gilt, price 2s. (post free).

MYXŒDEMA: and the Effect of Climate on the Disease. By A. MARIUS WILSON, M.D., B.S., L.R.C.P. Lond., M.R.C.S. Eng. A valuable little treatise on a subject about which comparatively little has been written. The special feature of this work is its treatment of the effects of climate upon the disease.

Fifth Edition, profusely illustrated with over 100 Cuts; carefully revised, and bound in Cloth, Crown 8vo, about 400 pp., price 3s. 6d. (post free).

THE THEORY AND PRACTICE OF NURSING: A Text-Book for Nurses. By PERCY G. LEWIS, M.D., M.R.C.S., L.S.A. Always a standard work on Nursing; it now occupies the position of a classic, being used throughout the world in Training Schools and by Private Students.

Third Edition, about 400 pp., profusely illustrated, Crown 8vo (in the press).

COTTAGE HOSPITALS: General, Fever, and Convalescent. Their Progress, Management, and Work. By HENRY C. BURDETT, Author of "Hospitals and Asylums of the World," etc.

THE SCIENTIFIC PRESS' PUBLICATIONS (Continued).

"Mr. Burdett's monumental work on Hospitals."—*Times.*

In Four Volumes, with a Portfolio of Plans, Cloth extra, Bevelled, Royal 8vo, Top Gilt, price £8 8s. complete.

HOSPITALS AND ASYLUMS OF THE WORLD. Their Origin, History, Construction, Administration, Management, and Legislation: with Plans of the chief Medical Institutions accurately drawn to a uniform scale, in addition to those of all the Hospitals of London in the Jubilee year of Queen Victoria's reign. By HENRY C. BURDETT, Author of "Cottage Hospitals," "Accounts, Audit, and Tenders," etc., etc.. etc.

Published every year, enlarged to about 700 pp., Crown 8vo, Cloth Gilt, price 5s.

BURDETT'S HOSPITAL AND CHARITIES ANNUAL: Being the Year Book of Philanthropy. Containing a Review of the Position and Requirements of the Voluntary Charities, and an Exhaustive Record of Hospital and Charitable Work for the Year. It will also be found to be the most Useful and Reliable Guide to British, Colonial, and American Hospitals, Dispensaries, Nursing and Convalescent Institutions and Asylums. Edited by HENRY C. BURDETT.

Demy 8vo, nearly 200 pp., Cloth Gilt, profusely illustrated with over 70 special Cuts, price 6s. (post free).

ART OF MASSAGE. By A. CREIGHTON HALE. As a Text-Book this volume will be found invaluable. It contains a complete exposition of the Art of Massage, together with many useful hints and much valuable information which every Masseuse or Nurse learning Massage should read.

Third Edition, enlarged and partly re-written, Cloth Gilt, Crown 8vo, about 200 pp., price 2s. 6d.

HOSPITAL SISTERS AND THEIR DUTIES. By EVA C. E. LÜCKES, Matron to the London Hospital. The favourable reception accorded to the first two editions of this useful and interesting work, and the regular demand for copies of it, encourage the Publishers to place this third edition, greatly improved and enlarged, before the Institutions. The experience and position of its author entitle it to authority, and every Matron, Sister, or Nurse who aspires to become a Sister should read the advice and information contained in its pages.

Second Edition, Demy 8vo, profusely illustrated, nearly 200 pp., Cloth, Important Text-Book for Asylum Attendants, price 2s. 6d. (post free).

MENTAL NURSING. By WILLIAM HARDING, M.B. A Text-Book specially designed for the instruction of Attendants on the Insane. The want of a complete book for the instruction of Asylum Attendants has been long felt, and it is with confidence that the Publishers recommend this work to the managers of all Institutions for the Insane. This edition has three new and important chapters.

Second and Revised Edition. Demy 16mo (suitable for the apron pocket), handsomely bound in Terra-Cotta Cloth Boards, 140 pp., price 2s.

THE NURSE'S DICTIONARY OF MEDICAL TERMS AND NURSING TREATMENT. Compiled for the use of Nurses. By HONNOR MORTON. Containing descriptions of the Principal Medical and Nursing Terms and Abbreviations, Instruments, Drugs, Diseases, Accidents, Treatments, Physiological Names, Operations, Foods, Appliances, etc., etc., encountered in the Ward or Sick-room.

Demy 8vo, 200 pp., Fourth Thousand, profusely illustrated with Copyright Portraits and Drawings, price 2s. 6d. (post free).

HOW TO BECOME A NURSE: And How to Succeed. A complete guide to the Nursing Profession for those who wish to become Nurses, and a useful book of Reference for Nurses who have completed their training and seek employment. Compiled by HONNOR MORTEN (author of "Sketches of Hospital Life," "The Nurse's Dictionary," etc.).

By HERBERT W. ALLINGHAM, F.R.C.S.,
Surg. to the Gt. Northern Hosp. ; Assist. Surg. to St. Mark's Hosp. for Disease of the Rectum.

COLOTOMY,
INGUINAL, LUMBAR, AND TRANSVERSE, FOR
CANCER AND ULCERATIONS,
WITH STRICTURE OF THE LARGE INTESTINE. With numerous Illustrations, price 6s.
EDITOR OF THE FIFTH EDITION OF ALLINGHAM ON
DISEASES OF THE RECTUM.
Numerous Illustrations, price 10s. 6d. (Churchill's).
AUTHOR OF
"The Operative Treatment of Internal Derangements of the Knee Joint." 5s. (Churchill's).

BAILLIÈRE, TINDALL & COX, KING WILLIAM STREET, STRAND, W.C.

By THOMAS DUTTON, M.D., M.R.C.P. Ed.

INDIGESTION, GOUT, CORpulency & Constipation Clearly Explained, Treated, and Dieted, Third Edition, Price 3/-

"This is a very useful little book, full of sound good sense and wise saws."—*Brit. Med. Jour.*

FOOD AND DRINK Rationally Discussed, Second Edition, Price 2/-

"We have here a book which is interesting as well as useful."—*The Queen.*

SEA-SICKNESS (treatment and prevention); Voyaging for Health; Health Resorts. Third Edition, Price 2/-

"Contains much useful and original information of much value to those who traverse the seas in ships, especially those who suffer from sea-sickness."—*The Hospital Gazette.*

DOMESTIC HYGIENE, *Nearly ready*, Price 2/-

"A practical treatise for every household."

LONDON—
HENRY KIMPTON, Medical Publisher, 82, High Holborn, W.C.

Eighth Edition, Price 1s.

THE PAINLESS AND IMMEDIATE CURE
OF
HÆMORRHOIDS AND PROLAPSUS.

By G. EDGELOW, M.D.

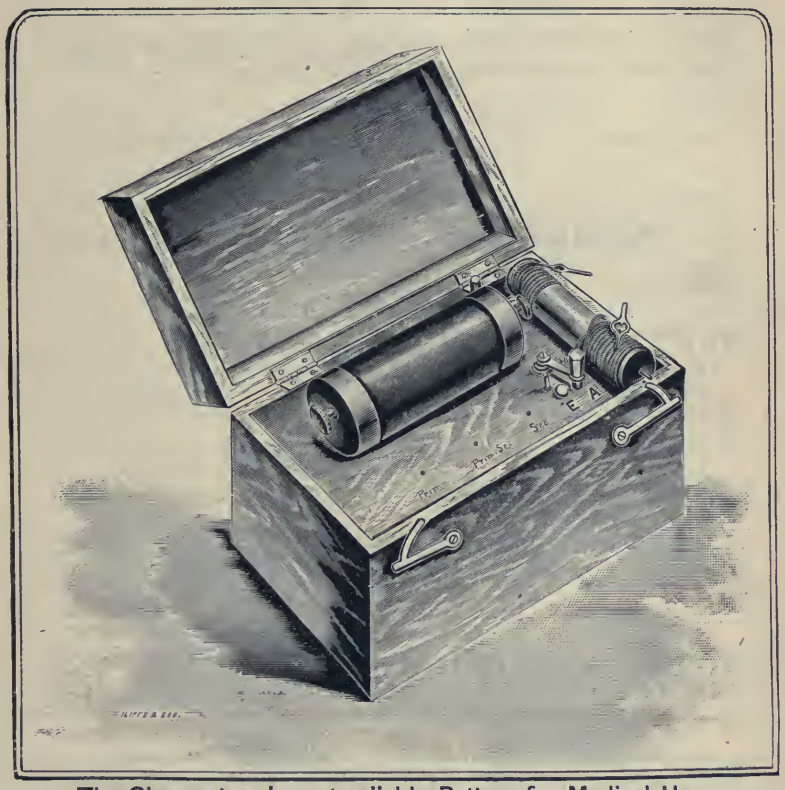
H. RENSHAW, 356, STRAND, W.C.

THE "SARNIAN"

COMPLETE MEDICAL COIL

In Polished Walnut Case with Nickel Telescope Handles.

30/-, 42/-, 50/-, *CARRIAGE PAID.*



The Cheapest and most reliable Battery for Medical Use.

PORTABLE, ALWAYS READY, AND CONTAINS NO LIQUIDS TO UPSET.

CROSSLEY & Co., Electrical Engineers

Buxton, Derbyshire, ENGLAND.

COMPLETE ILLUSTRATED PRICE LIST, POST FREE. 6D.

JOHN WRIGHT & Co.,

Medical Publishers & Printers,

BRISTOL,

Desire to negociate for the Publication of Medical and Scientific works, upon equitable terms, and with the greatest excellence of workmanship. Being practical Printers as well as Publishers, they are enabled to place books of this character on the market with every advantage to their clients; both in publicity, and in economy of production.

ABRIDGED CATALOGUE.

Just Published. Second Edition. 4/6, *post free. Revised and Enlarged, with many Additional Diagrams.*

OPHTHALMOLOGICAL PRISMS: AND THE DECENTERING OF LENSES. A Practical Guide to the Uses, Numeration, and Construction of Prisms and Prismatic Combinations, and the Centering of Spectacle Lenses. By ERNEST E. MADDOX, M.D.

"The writer has a happy faculty of explaining difficult subjects in a clear and concise manner, and throughout the book all difficult mathematical problems have been avoided."—*Brit. Med. Jour.*

"The Second Edition of this little work fully maintains the reputation accorded to the First."—*New York Med. Jour.*

"Excellent as was the first edition, the present is in every way an improvement upon it."—*Ed. Med. Jour.*

"The work is one which covers a subject of practical importance not presented so completely anywhere else. No Ophthalmic Surgeon can afford to be without it."—*Phil. Polyclinic.*

Just Published. Crown 8vo, Cloth. Price 2/6, *post free.*

NOTES ON NURSING IN EYE DISEASES. Illustrated with Wood Engavings and Process Blocks. By C. S. JEAFFRESON, M.D., F.R.C.S.E.

Large 8vo. Bevelled Boards. Price 6/-, *post free.*

MINERS' NYSTAGMUS: AND ITS RELATION TO POSITION AT WORK AND THE MANNER OF ILLUMINATION. With Numerous Fine Illustrations, several of which have been obtained from Photographs taken in the Pit with the Electric and Flash Lights. By SIMEON SNELL, F.R.C.S.

"The monograph is one of very general interest, and, as far as we know, is the only work of any pretentions upon Miners' Nystagmus."—*Brit. Med. Jour.*

JOHN WRIGHT & CO., Publishers and Printers, BRISTOL.

8vo, 300 pages. Illustrated. Price 6/6, post free.

LECTURES ON BRIGHT'S DISEASE.

By Prof. ROBERT SAUNDBY, M.D. Edin., F.R.C.P. Lond.

"So thoroughly practical that it recommends itself to the busy practitioner, and yet so scientific that even the specialist may consult its pages with great profit."—*Brit. Med. Jour.*

"Will command for themselves a recognition beyond what any words of commendation can bestow."—*Lancet.*

Demy 8vo. Cloth. Illustrated. Price 7/6, post free.

LECTURES ON DIABETES. By Prof. ROBERT SAUNDBY, M.D. Edin., F.R.C.P. Lond., *Author of "Lectures on Bright's Disease."*

"The best account we at present possess concerning a most interesting and puzzling disease."—*Brit. Med. Jour.*

"It is very long since medical literature has been enriched with a more valuable and interesting monograph than the present."—*Prov. Med. Jour.*

Sixth Thousand. 10/6 *post free. Illustrated with 235 Engravings. Third and Revised Edition Brought up to Date.*

PYE'S SURGICAL HANDICRAFT:

A MANUAL OF SURGICAL MANIPULATIONS, MINOR SURGERY, ETC. For the use of General Practitioners, House Surgeons, Students, and Surgical Dressers. By WALTER PYE, F.R.C.S. Revised and Edited by T. H. R. CROWLE, F.R.C.S. With Special Chapters on Aural Surgery, Teeth Extraction, Anæsthetics, etc. By Messrs. FIELD, HOWARD HAYWARD and MILLS.

"The work is admirably suited for the Dresser or Practitioner."—*Brit. Med. Jour.*

"As to the success of the Author, the most critical examination will rank it very high."—*Amer. Lancet.*

"The Editor has spared no pains to bring the work into full accord with the accepted Surgical procedures of the present day."—*Practitioner.*

Large 8vo. Cloth, 4/6, post free. 80 Illustrations.

THE SURGICAL TREATMENT OF THE

COMMON DEFORMITIES of CHILDREN.

By WALTER PYE, F.R.C.S., *Author of "Surgical Handicraft."*

"The advice given is clear and full of common sense."—*Brit. Med. Jour.*

"A thoroughly practical work, dealing with a most pitiful group of human afflictions."—*Chemist and Druggist.*

Twelfth Thousand. 2/-, post free. Pocket Size. Cloth. 80 Illustrations.

ELEMENTARY BANDAGING and SURGICAL DRESSING. Mostly condensed from *"Pye's Surgical Handicraft."* By WALTER PYE, F.R.C.S.

"The author writes well, the diagrams are clear, and the book itself is very small and portable"—*Brit. Med. Jour.*

"The directions are clear and the illustrations are good."—*Lancet.*

Second Edition, 400 pp., 8vo, with 60 Illustrations. 7/6, post free.

LECTURES ON MASSAGE AND ELECTRICITY. By THOMAS STRETCH DOWSE, M.D., F.R.C.P. Edin.

"The drawings are well done, clear, and explanatory, and add greatly to the value of the work."—*New York Med. Jour.*

JOHN WRIGHT & CO., Publishers and Printers, BRISTOL.

Large 8vo, about 400 pages. 6/-, Post Free.

DISEASE OF INEBRIETY FROM ALCOHOL, OPIUM, AND OTHER NARCOTIC DRUGS. By the *American Association for the Study and Cure of Inebriety.*

"The volume is full of striking theories and facts."—*Brit. Med. Jour.* "Probably the most important single book which has yet been devoted to its subject."—*Scotsman.*

Large 8vo. Cloth. 6/-, post free.

EPITOME OF MENTAL DISEASES; With the Present Methods of Certification of the Insane, and the Existing Regulations as to "Single Patients." A Book of Reference for Practitioners and Students. By JAMES SHAW, M.D.

"We cannot allow it to pass out of our hands without a friendly welcome."—*Jour. of Mental Science.*

Third Edition. Waistcoat Pocket Size. 1/-, post free.

GOLDEN RULES OF SURGICAL PRACTICE. For the Use of Dressers and Junior House Surgeons. By E. HURRY FENWICK, F.R.C.S.

"Sound, short, and serviceable. It is a good shilling's worth."—*Lancet.*
"A great deal of valuable information contained in a very few pages."—*Brit. Med. Jour.*
"The most concentrated of its kind that we have seen."—*Birm. Med. Rev.*

Crown 8vo. Cloth. 2/6, post free. Second Edition, Enlarged.

THE WORKHOUSE AND ITS MEDICAL OFFICER. By ALFRED SHEEN, M.D., M.R.C.S.

"The author of this very useful little work is one of the few who have given us in print their professional experiences of workhouses."—*Brit. Med. Jour.*

Imperial 16mo. Cloth. 3/6 post free.

PTOMAINES AND OTHER ANIMAL ALKALOIDS: THEIR DETECTION, SEPARATION AND CLINICAL FEATURES. By A. C. FARQUHARSON, M.D.

"An excellent exposition of the subject so far as it is known up to the present time."—*Jour. of Men. Science.* "This little book is interesting reading."—*Med. Press and Cir.*
"A scientific explanation of clinical facts which have long been recognised under the vague expression of blood poisoning."—*Birm. Med. Rev.*

Second Edition. 8vo, paper covers, 1/6; or Cloth, 2/6, post free.

OUR BABY: A BOOK FOR MOTHERS AND NURSES. By Mrs. LANGTON HEWER, *Diplomée Obstetrical Society, London.*

"A truly welcome companion to nurses."—*The Practitioner.*
"The book is the best we have ever seen on the subject."—*Edin. Med. Jour.*
"Abounds with practical information, clearly and briefly expressed."—*Bris. Med.-Chir. Jour.*

Small 8vo, Stiff Paper Covers. 1/-, Post Free.

SCIATIC NEURITIS: ITS PATHOLOGY AND TREATMENT. By ROBERT SIMPSON, L.R.C.P., L.R.C.S.

Pocket Size, Limp Covers, 2/- post free. Illustrated.

A PRIMER OF THE ART OF MASSAGE

(For Learners). Mostly condensed from "Lectures on Massage." By Thomas Stretch Dowse, M.D.

"Useful as a primer for beginners, and an *aide memoire* for others."—*Dublin Med. Jour.*

Fcap. 8vo, 1/-, post free.

OUR UNSEEN FOES: PLAIN WORDS ON GERMS in RELATION to DISEASE. By A. Wheeler, L.R.C.P.

"Exactly what it pretends to be—a simple exposition of some of the more interesting questions relating to the germ theory of epidemics and disease."—*Lancet.*

Second Edition. Revised and Enlarged. 96 *pp.* 1/-, *Post Free.*

PORTHCAWL AS A HEALTH RESORT.

With Map and Illustrations. By R. C. Hunter, M.R.C.S., L.R.C.P. Edin., &c.

"Dr. Hunter has much to say in its favour, and it certainly does seem to have a good deal to commend it to those who abominate a crowd."—*The Times.*

Just Published. Small 4to, Cloth lettered. Price 2/6, post free.

RHEUMATISM: SOME INVESTIGATIONS RESPECTING ITS CAUSE, PREVENTION AND CURE.

By Percy Wilde, M.D.

Crown 8vo, price 1/- post free.

THE WATER CURE in the BEDROOM;

or, HYDROPATHY AT HOME. By G. H. Doudney, M.B., M.R.C.S. Eng.

"An attempt to describe how some of the commoner ailments may be treated at home on hydropathic principles. Many members of our profession might gather some useful hints by a perusal of its pages."—*Hosp. Gaz.*

A New Medical Work in Four Parts. Imp. 8vo, in Wrapper.

DISSECTIONS ILLUSTRATED: A GRAPHIC HANDBOOK FOR STUDENTS OF HUMAN ANATOMY.

By C. Gordon Brodie, F.R.C.S. Plates by Percy Higley.

"The plates are exceedingly well drawn and placed upon the stone . . . . The explanatory letter-press is clear and concise."—*Lancet.*

Part I., THE UPPER LIMB, with Seventeen Coloured Plates and Ten Diagrams. 8/6 *post free.*

Part II., THE LOWER LIMB, with Twenty Coloured Plates, two-thirds natural size, and Six Diagrams. 10/- *post free.*

Large 8vo. Cloth. 560 *pages. Price* 15/-, *post free.*

TEXT-BOOK OF THE ERUPTIVE AND CONTINUED FEVERS.

By John W. Moore, B.A., M.D

"A learned and able work."—*Lancet.*

"A very careful and conscientious piece of work."—*Birm. Med. Rev.*

JOHN WRIGHT & CO., Publishers and Printers, BRISTOL.

Price 1/-, *post free. Fourth Edition. Enlarged and Illustrated.*

BATHS AND BATHING: A BOOK FOR EVERYBODY. By JOSEPH FARRAR, M.D., L.R.C.P., etc.

"The blemishes are few and the virtues are many."—*Literary World.*
"A thoroughly practical guide to that great essential, bathing."—*Field.*

Small 8vo, Cloth, with numerous Illustrations, 4/-, *post free.*

A HANDBOOK OF

OBSTETRIC AND GYNÆCOLOGICAL NURSING. By the late FLEETWOOD CHURCHILL, M.D. Revised by THOMAS MORE MADDEN, M.D., F.R.C.S. Edin.

Third Edition. Revised and Enlarged. Crown 8vo. Price 2/6.

ON BALDNESS AND GREYNESS: THEIR ETIOLOGY, PATHOLOGY, AND TREATMENT. By TOM ROBINSON, M.D.

Crown 8vo, 2/6. *By the same Author.*

LECTURES ON ACNE, LICHEN, AND PRURIGO.

8vo. 300 *pp., with* 50 *Illustrations,* 10/6.

DISEASES of the BRAIN AND SPINAL CORD: THEIR DIAGNOSIS, PATHOLOGY AND TREATMENT. By DAVID DRUMMOND, M.A., M.D., T.C.D.

Third Edition. Cloth. 1/6, *post free.*

TABLES FOR THE DIAGNOSIS AND TREATMENT of SYPHILIS. By J. K. BARTON, M.D., F.R.C.S.,I.

Price 7/6, *post free.*

THE POCKET PHARMACY, WITH THERAPEUTIC INDEX. By JOHN AULDE, M.D.

Price 9/-, *post free.* 140 *Illustrations, Two of which are Coloured.*

A Manual of PRACTICAL OBSTETRICS. By EDWARD P. DAVIS, A.M., M.D.

Crown 8vo, 5/-.

ABORTION AND ITS TREATMENT, from a Standpoint of Practical Experience. By T. G. THOMAS, M.D.

8vo, Cloth. With 38 *Diagrammatic Illustrations.* 6/-, *post free.*

The ANATOMY of the PERITONÆUM. By FRANKLIN DEXTER, M.D.

JOHN WRIGHT & CO., Publishers and Printers; BRISTOL.

A New and Revised (Twelfth) Edition. Post 8vo. 10/6 *post free.*

HOBLYN'S DICTIONARY OF TERMS

USED IN MEDICINE and the Collateral Sciences. Revised and Enlarged by J. A. P. PRICE, B.A., M.D., Oxon.

THE LATEST SERIES OF COMPENDS.

Illustrated. 4/- each.

ESSENTIALS OF PHYSIOLOGY.—By H. A. HARE, M.D.

ESSENTIALS OF OBSTETRICS.—By EASTERLEY ASHTON, M.D., Obstetrician to Philadelphia Hosp. 75 Illustrations.

ESSENTIALS OF GYNÆCOLOGY.—By E. B. CRAIGIN, M.D., Gynæcologist to Roosevelt Hosp., New York. 58 Illustrations.

ESSENTIALS OF DISEASES OF THE SKIN.—By HENRY W. STELWAGON, M.D., Clin. Lect. on Dermatology in Jefferson Med. Col. 74 Illustrations.

ESSENTIALS OF REFRACTION AND DISEASES OF THE EYE.—By EDWARD JACKSON, A.M., M.D.; ESSENTIALS OF DISEASES OF THE NOSE AND THROAT. —By E. BALDWIN GLEASON, M.D. Two volumes in one.

ESSENTIALS OF DISEASES OF CHILDREN.—By WILLIAM M. POWELL, M.D.

ESSENTIALS OF MEDICAL ELECTRICITY.—By D. D. STEWART, M.D., and E. S. LAWRENCE, M.D. 65 Illustrations.

ESSENTIALS OF DIAGNOSIS.—By SOLOMON SOLIS COHEN, M.D., and AUGUSTUS A. ESHNER, M.D. 55 Illustrations, some of which are Coloured. Frontispiece. 6/-, post free

8vo, Cloth. 330 *Pages.* 3/6, *post free.*

THE HEALTH RESORTS OF EUROPE.

By THOMAS LINN, M.D., with a Preface by A. E. SANSOM, M.D., F.R.C.P.

"Have been often described, but seldom, we think, to more purpose than in Dr. Linn's tersely-written and well-informed manual."—*The Speaker.*

Fifty-fifth Thousand. (*Samples free on application.*)

WRIGHT'S REGISTERED POCKET

CHARTS. For Bedside Case Taking. Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.

No. 1.—	50 CHARTS, folded for Pocket Case	post free,	2/6
,, 2.—	50 Ditto, on Cards, Eyeletted Flat	,,	6/-
,, 3.—	1 POCKET CASE, limp roan, to hold 50 Charts, complete with indelible Ink Pencil	,,	2/6
,, 4.—	1 GUARD BOOK, half bound, gold lettered, to hold 200 Complete Charts	,,	6/-
,, 5.—	50 CHARTS, 1 GUARD BOOK, and 1 POCKET CASE, complete ..	,,	10/6
,, 6 —	CHART HOLDERS, for hanging at bed heads ..	1/- each, or 9/- per dozen.	

Special quotations to Hospitals taking not less than 250 Charts, unfolded.

JOHN WRIGHT & CO., Publishers and Printers, BRISTOL.

REGISTERED COMBINATION

TEMPERATURE AND DIET CHARTS,

With Clinical Diagrams, specially arranged for Hospital use.

	Per 1000	500	250	100	50	less ea.
No. 7.—CHARTS, complete, with Figures on back in two colours	36/-	20/-	11/-	5/-	3/-	1½d.
,, 8.—Ditto, without Figures, one side only .	22/-	12/6	7/-	3/-	2/-	1d.
,, 9.—Clinical Figures only, two colours ..	26/-	15/-	8/-	3/6	2/6	1d.
,, 22.—Temperature Charts only, for 4 weeks..	22/-	12/6	7/-	3/-	2/-	1d.

Samples, etc., Free on Application.

MEDICAL BOOK-KEEPING.

Designed by JOHN BROOM, M.D.

	£	s.	d.
No. 10.—**ITEM PAPERS**—Size A, 3″ × 7″ per 1000, 8/-; per 500, 5/-; per 250	0	3	0
,, 11.— Ditto Size B, 4″ × 7″ per 1000, 9/-; per 500, 5/6; per 250	0	3	6
,, 12.—**LEATHER POCKET CASES**, for ditto, with Flap, to hold 50 Item Papers Size A, each, 3/-; Size B, each	0	3	6
,, 14.—**LEATHER WALLET** with Alphabetic and 3 spare Compartments, flexible cover and strap	1	0	0
,, 15.—**CASH BOOKS**, 8vo, half bound calf, 9″ × 6″ .. 2½ quires	0	5	0
,, 16.—**DAY BOOKS**, F'cap Folio, half bound calf, 13″ × 8″ 5 qrs 10/6; 2½ qrs	0	8	0
,, 18.—**LEDGERS**, F'cap Folio, half bound calf, with Index, 13″ × 8″, 5 quires, 10/6; 2½ quires	0	8	0
,, 20.—**CASE BOOKS**, 8vo, half bound calf, with Index, 9″×6″ 2½ quires	0	6	8
,, 21.—**MEMORANDUM AND CASH BOOK** combined, small, for Pocket, cloth, red edges	0	0	6

New, Single Book System of Account Keeping. Fifth Edition.

Jefferson's PHYSICIANS' & SURGEONS' REGISTER.

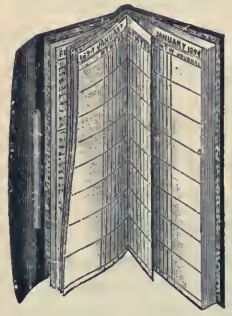
Comprising in one book Day Book, Ledger, Cash Book, Obstetric Record, Yearly Totals, Memoranda, and Summary of Accounts Rendered. Self-posting and Self-indexing.

Registering 2,600 Accounts, £1 10 0; 5,200 Accounts, £2 12 6

One book is usually sufficient to last Four Years.

Sent on approval, upon receipt of 2/6 to pay carriage both ways, which may be deducted from account when book is paid for. Sample sheets *cannot* be forwarded as they do not explain the system.

Sent on approval on receipt of 3d. stamp for Postage, or post free 5/6.



WRIGHT'S IMPROVED VISITING LIST.

Compiled by ROBERT SIMPSON, L.R.C.P., L.R.C.S.

"Among the first and best."—*Brit. Med. Jour.*

"Arranged with equal simplicity and judgment."—*Lancet.*

"A very successful attempt to economise time by economising space."—*Med. Press and Circ.*

"We consider this the best Practitioners' Visiting List ever published."—*Hosp.*

"The whole is so well got up that it is a pleasure to handle it."—*Practitioner.*

"It should be a favourite with the Profession."—*Med. Mag.*

"The book is admirably arranged, well printed, and eminently portable."—*Med. Chron*

JOHN WRIGHT & CO., Publishers and Printers, BRISTOL.

GRAY'S ANATOMY, Descriptive and Surgical. 12th Edition. **36/-**

ERICHSEN'S SCIENCE AND ART OF SURGERY. 9th Edition. 2 vols. 1025 engravings on wood - - - **48/-**

POWER'S CARPENTER'S PRINCIPLES OF HUMAN PHYSIOLOGY - - - - - - - **31/6**

COMPARATIVE ANATOMY OF THE DOMESTICATED ANIMALS, By A. CHAVEAU, M.D., LL.D., and S. ARLOING, Lyons. 2nd English Edition. Translated and Edited by GEO. FLEMING, C.B., LL.D., F.R.C.V.S. 585 Illustrations **31/6**

ROBERTS'S HANDBOOK OF THE THEORY AND PRACTICE OF MEDICINE - - - - - **21/-**

A MANUAL OF CLINICAL AND PRACTICAL PATHOLOGY, by W. ESSEX WYNTER, M.D., and FRANK J. WETHERED, M.D. - - - - - - - - **12/6**

ELEMENTARY SYSTEMATIC CHEMISTRY, for the use of Students and Colleges. Interleaved. By WM. RAMSAY, Ph.D., F.R.C.S. - - - - - - - - **5/6**

JOHN WRIGHT & CO.,
Medical Publishers and Printers, BRISTOL.

FOUNDED IN THE YEAR 1808 **NORWICH UNION** MUTUAL LIFE OFFICE.

With which is incorporated the **AMICABLE SOCIETY,** founded by Royal Charter in the reign of Queen Anne, unitedly constituting

THE OLDEST LIFE OFFICE IN THE WORLD.

CLAIMS PAID exceed **20 MILLIONS.**

INCREASING BUSINESS.—The New Business has been steadily and rapidly increasing of late years, amounting to OVER ONE MILLION STERLING in 1891 (Four times that of 1886), **£1,150,000** in 1892, & approximating to **1½ MILLIONS** in 1893.

INCREASING BONUSES.—*The following have been the AVERAGE RATES of the BONUS ADDITIONS per* **£100,** *per annum, for the last Five Quinquenniums.*

HEAD OFFICE - NORWICH.

LONDON OFFICES { 50, Fleet Street, E.C.; 195, Piccadilly, W.; 10, King William Street, and 1, Victoria Street, Westminster.

Medical and General
PROTECTION OFFICE,
55, ST. AUBYN STREET, DEVONPORT.

This Office is established for the following purposes :—

Collection of Debts, Status Enquiry, Finding out Correct Addresses and giving gratuitous Legal Advice to Subscribers as to Recovery of any Debts, and for the transaction of every branch of the Accountancy business. Terms 21/- per year; Annual Subscriptions can commence on the First of any month.

On Debts of £20 and under, the following commission is charged on all sums paid through letters from this Office : 5 per cent. if Debt is paid in full ; 10 per cent. if paid by instalments. No Debt collected for less than 1/-, and no commission less than 3d. is charged on any instalments.

On Debts over £20, 2½ per cent. is charged if amount paid down ; 5 per cent. if by instalments of £1 and upwards ; under £1, the same as on terms of £20 and under.

The above terms include the use of a solicitor in conducting cases in the County and Supreme Courts over £2 and upwards ; under £2, 5 per cent. charged for Solicitor's attendance.

C. B. COURTENAY THOMAS,
Member Corporation of Accountants, Manager.

P.S.—Medical Men who are not desirous of paying the Annual Subscription of 21/- can have their debts collected at 3d. in the Shilling on all sums paid. See Prospectus, Medical Visiting List, and Journals, gratis and post free.

C. B. COURTENAY THOMAS,
Member Corporation of Accountants,
Accountant, Auditor, Arbitrator, &c.,
55, ST. AUBYN STREET, DEVONPORT,
Is prepared, among other branches of the Accountancy Business,

To undertake Audits of every description.
To prepare Balance Sheets and Financial Statements.
To prepare Executorship Accounts.
To write out Invoices and Accounts periodically.
To organise or keep books of Private Businesses or Public Companies.
To act as Secretary.
To act as Liquidator under the Companies' Acts.
To accept Trusteeship in Bankruptcy or Assignments, and Receiverships in Chancery.
To arrange Partnerships.
To adjust and arrange Partnership Accounts.
To conduct Investigations and Commercial Arbitrations.
To negotiate Mortgages and other Loans.
To convert Private Businesses into Limited Liability Companies.
To collect Rents and Accounts.
To manage Property and Estates.
To purchase claims of Creditors in Bankruptcies and Liquidations.
To purchase Assets of Bankrupt and Insolvent Estates and Companies in Liquidation.
To carry through Fire, Life, Accidental, Sickness, Plate and Sheet Glass, Burglary, House, Cattle, Carriage, and Guarantee Insurances.

Tradesmen and others would do well and save a lot of expense by having all their disputes settled by Arbitration by C B. COURTENAY THOMAS, who is conversant with all legal matters, possesses sharp and quick perceptive qualities, so that in all cases he may have to decide upon, his judgment will be exercised without partiality or favour of any sort or kind on the whole facts of each case laid before him. The cost of Arbitration will not be more than County Court expenses. Arbitrations arranged to take place in any district out of Devonport on payment of C. B. COURTENAY THOMAS's travelling expenses extra.

UNIVERSITY EXAMINATION POSTAL INSTITUTION.

The Institution has a Special Course to prepare Medical Officers of Health and others through the post for the

DIPLOMA OF PUBLIC HEALTH

(Camb. or Royal Colleges). The Course is conducted by an M.D., D.P.H. (Camb.), who has had much experience in preparing Candidates for the Diploma and for the M.D. (State Medicine: London Univ.). Special Course in the calculations of Public Health.

Candidates for the Diploma by coming to the Tutor in London can be rapidly taken through the practical work required.

Preparation also through the post for all the Medical Examinations of the

UNIVERSITY OF LONDON

and of the Royal Colleges, and for the M.D. (Durham).—Tutors: Gold Medallists, M.D., M.S. (Lond.). Preparation also for the Medical Preliminary Arts or Science Examinations. Science Laboratories. Resident Pupils.

RECENT SUCCESSES.

Candidates have been successfully prepared by the Institution during 1892–3 for the M.D. (Lond.), both in Medicine and in State Medicine, the M.S. (Lond.), the candidate securing the *Medal* (1893), the D.P.H. (Camb.), the final M.R.C.S. and L.R.C.P. (Eng.), and the Intermediate Medicine (Lond.).

Amongst successes obtained during 1892–3 for other than Medical Examinations may be mentioned:

46 passed the Cambridge Higher Local Examination, of whom 10 took distinction in different subjects, and 3 others a First Class.

One Candidate obtained Honours in the LL.B. (Lond. Univ.).

Medal in Physical Geography obtained in the Cambridge Senior Local Examination.

A List of Successes will be sent on application.

There are 26 Tutors in the Institution, of whom almost all are Medallists, or have obtained First Class Honours, or the highest Degrees.

For Prospectus and information apply to the Manager of the Institution,

MR. E. S. WEYMOUTH, M.A. (LOND.)

28, SOUTHAMPTON STREET, STRAND,

LONDON, W.C.

Temporary Office during re-building, 34, Maiden Lane, Covent Garden, London, W.C. Either Address for Letters.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE.

FOUNDED BY RAYHERE, A.D. 1123.

THE Clinical practice of this Hospital comprises a service of 750 Beds, of which 227 are allotted to the Medical Cases, 353 to the Surgical Cases, 26 to Diseases of the Eye, 20 to Diseases of Women, and 50 to the Syphilitic; while 74 are for Convalescent Patients at Swanley, Kent. The Hospital receives within its Wards nearly 7000 Patients annually, whilst the Out-Patients amount to more than 156,000.

PUPILS' APPOINTMENTS.

Eight House-Physicians, each holding office for one year, are appointed by the Physicians. Each House-Physician is provided with rooms by the Hospital authorities. Ten House-Surgeons, each holding office for one year, are appointed by the Surgeons. Each House-Surgeon is provided with rooms by the Hospital authorities.

The Midwifery-Assistant holds office for six months, and is appointed by the Physician-Accoucheur. He is provided with rooms by the Hospital authorities.

The Ophthalmic House-Surgeon is appointed every six months by the Ophthalmic Surgeons. All the above officers receive a salary of £25.

Two Resident Assistant Chloroformists are appointed annually; the Senior receiving £50, and the Junior £25. Two Assistant Electricians, with a salary of £25, are appointed every three months.

The In-Patient Dressers, the Clinical Clerks, the Obstetric Clerks, the Clerks to the Out-Patients, the Dressers to the Out-Patients, and the Clerks and Dressers in the Special Departments are chosen from the diligent Students. No fee is paid for any of these appointments.

MEDICAL AND SURGICAL STAFF.

Physicians—Dr. Church, Dr. Gee, Sir Dyce Duckworth, Dr. Hensley.
Assistant-Physicians—Dr. Brunton, F.R.S. Dr. Norman Moore, Dr. S. West, Dr. Ormerod.
Consulting Surgeons—Sir J. Paget, Bart., D.C.L., F.R.S., Luther Holden, Esq., Sir Wm. Savory, F.R.S.
Surgeons—Mr. T. Smith, Mr. Willett, Mr. Langton, Mr. Marsh, Mr. Butlin.
Assistant Surgeons—Mr. Walsham, Mr. Cripps, Mr. Bruce Clark, Mr. Bowlby, Mr. Lockwood.
Physician-Accoucheur—Dr. Champneys.
Assistant Physician-Accoucheur—Dr. Griffith.
Ophthalmic Surgeons—Mr. Power, Mr. Vernon.

THE COLLEGE.

Students attending the Practice of the Hospital, or the Lectures in the Medical School, are admitted to residence in the College within the Hospital walls, subject to the College Regulations.

LECTURES.

Medicine—Sir Dyce Duckworth, Dr. Moore.
Surgery—Mr. Willett, Mr. Marsh.
Descriptive and Surgical Anatomy—Mr. Walsham, Mr. Bruce Clarke.
General Anatomy and Physiology, with Histology—Dr. Klein, F.R.S.
Chemistry and Practical Chemistry—Dr. Russell, F.R.S.
Midwifery—Dr. Champneys.
Physics—Mr. F. Womack.
Materia Medica—Dr. Brunton, F.R.S.
Botany—Rev. George Henslow.
Forensic Medicine—Dr. Hensley.
Hygiene—Dr. Thorne.
Biology and Comparative Anatomy—Dr. Shore.
Pathological Anatomy—Dr. Kanthack.
Ophthalmic Surgery—Mr. Power.
Psychological Medicine—Dr. Claye Shaw.

CLINICAL LECTURES

Are given during the Winter and Summer Session.
Clinical Medicine—Dr. Church, Dr. Gee, Sir Dyce Duckworth, Dr. Hensley.
Clinical Surgery—Mr. T. Smith, Mr. Willett, Mr. Langton, Mr. Marsh, Mr. Butlin.
Midwifery and Diseases of Women—Dr. Champneys.

SPECIAL DEPARTMENTS.

Diseases of the Skin—Dr. S. West.
Orthopædic Surgery—Mr. Walsham
Diseases of the Ear—Mr. Cumberbatch.
Diseases of the Eye—Mr. Power, Mr. Vernon.
Practical Surgery—Mr. Bowlby, Mr. Power.
Practical Anatomy—Mr. Jessop, Mr. Waring.
Assistant Demonstrators—Mr. Bailey, Mr. Eccles, Mr. Paton, Dr. Hayward.
Medical Registrar—Dr. Herringham.
Practical Physiology—Dr. Edkins.
Assistant Demonstrators—Dr. Cautley, Dr. Fletcher.
Operative Surgery—Mr. Lockwood, Mr. Bowlby, and Mr. Power.
Practical Medicine—Dr. West.
Practical Midwifery—Dr. Roberts.
Surgical Registrar—Mr. Berry.

SCHOLARSHIPS AND PRIZES.—Open Scholarships in Science (founded 1873). These Scholarships, four in number, of the value of £150, £75, £75, £50, are tenable for one year. Candidates must not be more than twenty-five years of age for those of £75, and not more than twenty years of age for the others, and must not have entered to the medical or surgical practice of any London medical school. The subjects of examination are Physics, Chemistry, for one of £75; Biology and Physiology for the other of £75; and for the Junior, Physics, Chemistry, and Biology.—Preliminary Scientific Exhibition (founded 1873). The subjects of examination are identical with those of the Open Scholarship in Science. This Exhibition, of the value of £50, is tenable for one year.—The Jeaffreson Exhibition, of the value of £20, is an open exhibition in Classics, Mathematics, and Modern Languages.—A Shuter Scholarship, £50, in Anatomy, Physiology, and Materia Medica, at entrance (limited to graduates in arts of Cambridge).—A Senior Scholarship, £50, in Anatomy, Physiology, and Chemistry.—Lawrence Scholarship and Gold Medal, of the value of 40 guineas (founded 1873 by the family of the late Sir William Lawrence).—Two Brackenbury Scholarships, each 80 guineas, in Medicine and Surgery.—Four Junior Scholarships in the subjects of study of the first year; 1. £80; 2 £20; 3. £25; 4. £15.—The Wix Prize is awarded for the best essay on the following subject: "The Life and Works of Trousseau."—The Bentley Prize for the best report of cases occurring in the wards of the hospital during the previous year.—The Kirkes Gold Medal and Scholarship of 30 guineas for Clinical Medicine.—The Hichens Prize for the best examination in "Butler's Analogy."—Foster Prize for the best examination in Practical Anatomy (senior).—The Treasurer's Prize for the best examination in Practical Anatomy (junior).—The Harvey Prize for the best examination in Practical Physiology.

Special Classes are held for the Preliminary Scientific, and for other Examinations at the University of London. Students preparing for other Examining Boards are arranged in classes and examined by the Lecturers, Demonstrators, and Assistant Demonstrators.

Fee for Lectures and Hospital Practice, 150 guineas if paid in one sum, or 160 guineas if paid by Instalments. Payment in either of these ways entitles a Student to a Perpetual ticket.

Communications to be addressed Dr. T. W. Shore, Warden of the College, St. Bartholomew's Hosp.

UNIVERSITY OF DURHAM.

COLLEGE OF MEDICINE, NEWCASTLE-UPON-TYNE.

LICENCES, AND DEGREES IN MEDICINE, SURGERY & SANITARY SCIENCE.—Three Licences, and six Degrees are conferred by the University of Durham—viz., Licences in Medicine, in Surgery, and Sanitary Science: the Degrees of Bachelor in Medicine, Doctor in Medicine, Bachelor in Surgery, and Master in Surgery, Bachelor in Hygiene, and Doctor in Hygiene.

Attendance at the University of Durham College of Medicine during one of the five years of professional study, or subsequently to qualification elsewhere, is required as part of the curriculum for the Degrees, except in the case of Practitioners of more than 15 years' standing who have attained the age of 40 years, who can obtain the Degree after examination only.

The first two examinations for the Degree of M.B. may be passed prior to the commencement of attendance at Newcastle.

A candidate who has a recognized qualification, or who has passed the First Examination of the Conjoint Board in England of the Royal College of Physicians of London and the Royal College of Surgeons of England, will be exempt from the First Examination of the University of Durham, except in the subjects of Chemistry and Physics, in which he will be examined.

A Candidate who has passed the First and Second Examinations of the University will be exempt from the First and Second Examinations of the Conjoint Board in England, and will be entitled to present himself for the Final Examination of the Board on the completion of the necessary curriculum.

The extra Arts Examination must be passed previously to the Candidate's entry for his Final Examination for the Degree.

All information together with Examination Papers, &c., is given in the Calendar of the University of Durham College of Medicine, Newcastle-upon-Tyne, or may be obtained from the Secretary at the College.

Scholarships, &c.—A University of Durham Scholarship, value £100—for proficiency in Arts, awarded annually to full Students in their first year only. The Dickinson Scholarship, value £15 and a Gold Medal—for Medicine, Surgery, Midwifery, and Pathology. The Tulloch Scholarship, value, the interest of £400—for Anatomy, Physiology, and Chemistry. The Charlton Scholarship, value, the interest of £700—for Medicine. The Gibb Scholarship, value, the interest of £500—for Pathology. The Goyder Memorial Scholarship (at the Infirmary), value, the interest of £325; Luke Armstroag Scholarship, the interest of £680; Stephen Scott Scholarship, the interest of £1000. Heath Scholarship—The late George Yeoman Heath, M.D., M.B., D.C.L., F.R.C.S., President of the University of Durham College of Medicine, has bequeathed the sum of £4000, to found a Scholarship in Surgery, the interest to be awarded every second year. At the end of each Session a Prize of Books and Honours Certificates are awarded in each of the regular Classes. An Assistant Curator of the Museum, Assistant Demonstrators of Anatomy, Prosectors, and Assistant Physiologists are elected yearly. Pathological Assistants, Assistants to the Dental Surgeon, Assistants in the Eye Department, Clinical Clerks, and Dressers are appointed every three months.

The Royal Infirmary contains 280 beds. Clinical Lectures are delivered by the Physicians and Surgeons in rotation. Pathological Demonstrations are given as opportunity offers by the Pathologist. Practical Midwifery can be studied at the Newcastle Lying-in-Hospital, where there is an Out-door Practice of about 500 cases annually.

FEES.

(*a.*) A Composition Ticket for the complete series of Courses of Lectures at the College may be obtained:—I. By the payment of 70 guineas on entrance. II. By two payments, the first of 45 guineas at the commencement of the first year, and 35 guineas at the commencement of the second year. III. By the payment of three annual instalments, the first of 35 guineas, the second of 30 guineas, and the third of 20 guineas, at the commencement of the Sessional year.

In the event of it becoming necessary for a Student to take out any extra course, he will be required to pay the special fee for that course.

*** The Council wish it to be clearly understood that the payment of the composition fee does not confer the right to attend the College in perpetuity, and that if, after the completion of his curriculum, the further attendance of a Student shall be deemed from any cause undesirable, the Council shall have the right, if they think proper, to debar such Student from further attendance.

Single Course of Lectures, 5 guineas, except the courses of Practical Pharmacy and Physics, which are each 2 guineas; and the Courses of Sanitary Chemistry and Practical Chemistry for the Degree of Bachelor in Hygiene and for the Licence in Sanitary Science, which are each 3 guineas; and 5 guineas each for three months' instruction in a Chemical Laboratory and three months' instruction in a Bacteriological Laboratory. The Fee for Dissections is 3 guineas in Winter, and 2 guineas in the Summer. The Fee for each Course or half Course attended by Candidates rejected at any Degree Examination is 2 guineas.

(*b.*) Fees for attendance on Hospital Practice:—

For 3 months' Med. & Surg. Practice £5 5s. | For 1 year's Med. and Surg. Practice £12 12s.
" 6 " " " " £8 8s. | "Composition Fee Med. & Surg. Prac. £25 25s.

Fees for Lectures, &c., at the College must be paid to the Registrar, and fees for Hospital Practice to the House Physician, at the time of entry.

Further particulars may be obtained from the Secretary of the University of Durham College of Medicine, Newcastle-upon-Tyne.

UNIVERSITY OF EDINBURGH.

FACULTY OF MEDICINE.—WINTER SESSION.

The Winter Session begins in October

Materia Medica	Prof. T. R. Fraser, M.D.
Chemistry	Prof. Crum Brown, M.D.
Surgery	Prof. Chiene, M.D.
Institute of Medicine or Physiology	Prof. Rutherford, M.D.
Midwifery & Diseases of Women and Children	Prof. Simpson, M.D.
Clinical Surgery (Tu. & Fr.) ..	Prof. Annandale, M.D.
Clinical Medicine (Mon. & Th.) ..	Profs. Grainger Stewart, Fraser, & Greenfield; & Simpson on Diseases of Women
Anatomy	Prof. Sir William Turner, M.B.
Practice of Physic	Prof. Grainger Stewart, M.D.
General Pathology	Prof. Greenfield, M.D.
Botany	Prof. Balfour, M.D.
Natural History	Prof. Ewart, M.D.
Physics	Prof. Tait.

LECTURERS.—Clinical Instruction on Diseases of Children, James Carmichael, M.D., and John Playfair, M.B.

SUMMER SESSION.

The Summer Session begins on 1st May.

Botany, Prof. Balfour.—Medical Jurisprudence, Prof. Sir Douglas Maclagan.—Clinical Medicine, Profs. Grainger Stewart, Fraser, and Greenfield; and Prof. Simpson on Diseases of Women.—Clinical Surgery, Prof. Annandale.—Chemistry (Advanced Class), Prof. Crum Brown.—Natural History, Prof. Ewart.—Physics, Prof. Tait.

LECTURERS.—Mental Diseases, T. S. Clouston, M.D.; Diseases of the Eye, D. Argyll Robertson. M.D.; Clinical Instruction on Diseases of Children, Jas. Carmichael, M.D., and J. Playfair, M.D.

The annual value of the Fellowships, Scholarships, Bursaries and Prizes in the Faculty of Medicine amounts to about £3,750; that of others which may be held by Students of Medicine amounts to about £1,250.

Practical Instruction is afforded in Laboratories, furnished with all the necessary appliances, and in Tutorial and Practical Classes in connection with the above chairs under the superintendence of the Professors.

A copy of the Regulations for Graduation in Medicine and Surgery may be had on application to the Clerk of the University, or to the Dean of the Faculty of Medicine.

UNIVERSITY OF EDINBURGH, *December*, 1893.

JOHN KIRKPATRICK, *Secretary of Senatus.*

Royal College of Surgeons of Edinburgh.

FOUNDED 1505.

Copies of the Regulations for the Fellowship, Licence, and Licence in Dental Surgery, with dates of Examinations, Curricula, etc., for the year 1893-4, are now ready, and may be had on application to

JAMES ROBERTSON, Solicitor, 1, GEORGE SQUARE, EDINBURGH,
Clerk to the College.

University College, BRISTOL.

FACULTY OF MEDICINE.

WINTER SESSION, MONDAY, October 2nd, 1893. SUMMER SESSION, TUESDAY, May 1st, 1894.

Courses of Lectures:

Medicine—Profs. E. MARKHAM SKERRITT, M.D. Lond., B.S., B.A., F.R.C.P., and R. SHINGLETON SMITH, M.D. Lond., B.Sc., F.R.C.P.
Surgery—Prof. J. GREIG SMITH, M.A., M.B., C.M.
Anatomy—Prof. EDWARD FAWCETT, M.B., C.M. Edin
Practical Anatomy—Demonstrators, J. P. BUSH, M.R.C.S., and C. A. MORTON, F.R.C.S.
Physiology—Prof. G. MUNRO SMITH, M.R.C.S.
Chemistry—Lecturer, T. COOMBER, F.C.S.
Public Health—Lecturer, D. S. DAVIES, M.D. Lond., D.P.H. Cantab.
Midwifery and Diseases of Women—Profs. J. G. SWAYNE, M.D. Lond, and A. E. AUST LAWRENCE, M.D.
Medical Jurisprudence—Lecturers, R. EAGER, M.D. Lond., and A. J. HARRISON, M.B. Lond.
Pathology and Morbid Anatomy—Lecturer, BARCLAY J. BARON, M.B., C.M. Edin.
Operative Surgery—Lecturer, C. F. PICKERING, F.R.C.S.
Practical Surgery—Lecturer, A. W. PRICHARD, M.R.C.S.
Materia Medica, Pharmacology, and Therapeutics—Lecturer, A. B. PROWSE, M.D. Lond., F.R.C.S.
Practical Physiology and Histology—Lecturer J. MICHELL CLARKE, M.A., M.D. Cantab., M.R.C.P.
Biology—Lecturers, Prof. A. LEIPNER and Prof. C. LLOYD MORGAN.
Practical Chemistry—Lecturer, T. COOMBER, F.C.S.
Comparative Anatomy—Lecturer, Prof. C. LLOYD MORGAN.
Dental Surgery—Lecturer, W. R. ACKLAND, M.R.C.S., L.D.S.
Dental Mechanics and Metallurgy—Lecturer, A. W. W. HOFFMAN, M.R.C.S., L.D.S.
Medical Tutor—W. M. STEVENS, M.D. Lond.
Physiological Assistant—W. M. BERGIN.

COMPOSITION FEE FOR LECTURES—**65** guineas or **55** guineas.

SPECIAL SIX MONTHS' COURSE FOR DIPLOMA IN PUBLIC HEALTH.

1.—Lectures on Public Health—D. S. Davies, M.D. Lond., D.P.H. Cantab.
2.—Laboratory Course of Hygienic Chemistry and Bacteriology—W. W. Stoddart.
3.—Demonstrations on the Various Acts, Orders, By-Laws, &c.—J. C. Heaven, M.R.C.S., D.P.H. Lond.
4.—Practical Out-Door Sanitary Work—D. S. Davies, M.D. Lond., D.P.H., M.O.H

FEE for the entire Course, **20** guineas.

HOSPITAL PRACTICE may be attended either at the Bristol Royal Infirmary or at the Bristol General Hospital.

FEES (including Clinical Lectures)—Infirmary: Perpetual Medical and Surgical Practice, 20 guineas each, or in one payment, 35 guineas. Hospital: Perpetual Medical and Surgical Practice, £20 each, or in one payment, 35 guineas.

SCHOLARSHIPS AND PRIZES.—Numerous valuable Scholarships and Prizes are offered by the Faculty of Medicine, and by the Infirmary and the Hospital.

For Prospectuses and particulars apply to

E. MARKHAM SKERRITT, M.D., *Dean.*

St. Mark's Hospital

FOR

FISTULA AND OTHER DISEASES OF THE RECTUM,

CITY ROAD, LONDON, E.C.

FOUNDED 1835.

Physician:

F. DE HAVILLAND HALL, Esq., M.D., 47, Wimpole Street, W.

Surgeons:

ALFRED COOPER, Esq., F.R.C.S., 9, Henrietta Street, Cavendish Square.

DAVID HENRY GOODSALL, Esq., F.R.C.S., 17, Devonshire Place, Upper Wimpole St., W.

Assistant Surgeons:

F. SWINFORD EDWARDS, F.R.C.S., 55, Harley Street, Cavendish Square, W.

HERBERT WM. ALLINGHAM, F.R.C.S., 25, Grosvenor Street, Grosvenor Square.

The days for attendance of Out-patients are, Women—Wednesdays, at 10 o'clock in the morning. Men—Saturdays, at 3.30 o'clock in the afternoon. Punctually.

Operations take place on Mondays, 2 o'clock; Tuesdays, 2.30 o'clock, in the afternoon.

The Practice of this Hospital is free to Medical Men and Students.

Clinical Instruction is given by the Surgeons both in the Out-patient Department and in the Wards. During the past year, 296 In-patients were admitted, and 2038 Patients were treated in the Out-patient Department.

For further particulars apply to ARTHUR LEARED, *Secretary.*

THE LONDON ASSOCIATION OF NURSES.

Chief Office—**123, NEW BOND STREET, W.**

Branch Office—**86, KENNINGTON PARK ROAD, S.E.**

Superior Hospital-trained Nurses for Monthly, Medical, Surgical, Fever, and Small-pox Cases, also Male Attendants, Male Nurses, and Medical Rubbers, can be obtained immediately on application to the Superintendent.

Great care is taken in the selection of Monthly Nurses, who reside in a separate home and never come in contact with those who attend infectious cases.

HOME HOSPITALS FOR THE WELL-TO-DO.

Invalids can be received under the care of their own Physicians, each Patient being provided with a separate room.

M. FIRTH, Superintendent.

Telegraphic Address—"FIRTH'S ASSOCIATION, LONDON."

MASON COLLEGE, BIRMINGHAM.

Principal— Prof. R. S. HEATH, M.A., D.Sc. | *Dean*— Prof. B. C. A. WINDLE, M.A., M D., D.Sc.

Queen's Faculty of Medicine.

The WINTER SESSION will be OPENED on MONDAY, OCT. 1st, 1894.

Professors—

Medicine—Profs. C. W. Suckling, M.D. (Lond.), M.R.C.P., and R. Saundby, M.D. (Edin.), F.R.C.P.; *Surgery*—Profs. Bennett May, M.B., B.S. (Lond.), F.R.C.S., and G. Barling, M.B., B.S. (Lond.), F.R.C.S.; *Anatomy*—Prof. B. C. A. Windle, M.A., M.D., D.Sc.. B.Ch. (Dub.); *Physiology*—Prof. F. J. Allen, M.A., M.B. (Cantab.); *Chemistry*—Prof. W. A. Tilden, D.Sc. (Lond.), F.R.S.; *Physics*—Prof. J. H. Poynting, D.Sc. (Cantab.), F.R.S.; *Comparative Anatomy*—Prof. T. W. Bridge, M.A. (Cantab.); *Botany*—Prof. W. Hillhouse, M.A. (Cantab.), F.L.S.; *Therapeutics*—Prof. A. H. Carter, M.D. (Lond.), F.R.C.P.; *Forensic Medicine*—Prof. J. St. S. Wilders, M.R.C.S.; *Public Health*—Prof. Bostock Hill, M.D., D.P.H.; *Midwifery*—Prof. John Clay, M.R.C.S.; *Gynæcology*—Prof. Thomas Savage, M.D., M.R.C.P., F.R.C.S.; *Pathology*—Prof. O. J. Kauffmann, M.D., M.R.C.P.; *Lunacy and Mental Disease*—Prof. E. B. Whitcombe, M.R.C.S.

Lecturers—

Operative Surgery—Jordan Lloyd, M.B., M.S. (Durh.), F.R.C.S.; *Toxicology*—Bostock Hill, M.D., D.P.H.; *Ophthalmology*—Priestley Smith, M.R.C.S.; *Osteology*—T. Manners Smith, B.A. (Cantab.), M.R.C.S.; *Materia Medica*—J. Barclay, B.Sc. (Lond.); *Physics*—Philip L. Gray, B Sc. (Lond.).

Demonstrators—

Anatomy—Messrs. Manners Smith and Haslam. F.R.C.S.; *Physiology*—Mr. Vincent; *Chemistry*—Mr. Turner and Dr. Williamson; *Midwifery and Gynæcology*—Dr. Purslow; *Surgical Pathology*—G. Heaton, M.B.. F.R.C.S.; *Materia Medica*—J. D. Whittles, L.D.S.

DENTAL DEPARTMENT—Lecturers and Demonstrators—

Dental Surgery—Lecturer, F. E. Huxley, M.R.C.S., L.D.S.; Demonstrator, W. T. Madin, L.D.S.; *Dental Anatomy & Physiology*—Lecturer, J. Humphreys, L.D.S., F.L.S. (Hon. Sec. of Department); Demonstrator, C. D. Marson, M.R.C.S., L.R.C.P., L.D.S.; *Dental Mechanics*—Lecturer, ; Demonstrator, F. H. Goffe, L.D.S.; *Dental Metallurgy*—Lecturer, T. Turner, Assoc. R.S.M., F.I.C.; *Med.cal Diseases of Mouth, &c.*—Lecturer, T. Stacey Wilson, M.B., M.R.C.P.; *Surgical Diseases of Mouth, &c.*—Lecturer, F. Marsh, F.R.C.S.

There are separate Faculties of Arts and Science. Syllabuses, containing full particulars are published separately. Further information respecting the Medical Faculty can be obtained from the Dean, or from GEO. H. MORLEY, Registrar.

By WILLIAM H. BENNETT, F.R.C.S.

Surgeon to St. George's Hospital.

Just Published, with 12 Diagrams, 8vo, price 8s. 6d.

CLINICAL LECTURES ON ABDOMINAL HERNIA,

CHIEFLY IN RELATION TO TREATMENT, INCLUDING THE RADICAL CURE.

VARICOCELE, *8vo, price 5s.*

With 3 Plates, 8vo, price 6s.

CLINICAL LECTURES ON VARICOSE VEINS OF THE LOWER EXTREMITIES.

LONDON: LONGMANS, GREEN, & CO.

By DR. GEORGE HARLEY, F.R.S.

Diseases of the Liver, with and without Jaundice .. .. .. price 21/-
Sounding for Gall Stones and their Symptomatology .. .. „ 6d.
Extrusion of Gall-stones by Digital Manipulation .. .. .. „ 1/-

J. & A. CHURCHILL, 11, NEW BURLINGTON STREET, W.

ROTUNDA LYING-IN HOSPITAL, DUBLIN.

Master:
W. J. SMYLY, M.D. Dub., F.R.C.P.I.

Assistant Physicians:
JOHN H. GLENN, M.B., B.Ch., B.A.O.
E. HASTINGS SWEEDY, L.R.C.S.I., L.R.C.P.I.

Extern Maternity Assistant:
BRIGADE-SURGEON BATE.

Accommodation is provided for a limited number of Intern Pupils.
— PUPILS CAN ENTER AT ANY TIME. —

TERMS OF ATTENDANCE.

INTERN PUPILS.		EXTERN PUPILS.	
For Six Months	£21 0	For Six Months	£10 10
„ Three Months ..	12 12	„ Three Months ..	6 6
„ Two Months ..	9 9		
„ One Month	6 6		

Application to be made to the MASTER or ASSISTANT PHYSICIANS at the Hospital, Great Britain Street.

FEMALE PUPILS are trained as Nurses and Midwives, Fee 25 Guineas. Application to be made to the LADY SUPERINTENDENT.

LONDON SCHOOL OF MEDICINE FOR WOMEN,

30, HANDEL STREET, BRUNSWICK SQUARE; and ROYAL FREE HOSPITAL, GRAY'S INN ROAD.

MEDICAL OFFICERS AND LECTURERS.—*At the School:* Anatomy and Prac. Anatomy—Mr. Stanley Boyd, M.B., F.R.C.S. Physiology and Prac. Physiology—Prof. Halliburton, F.R.S. Chemistry and Prac. Chemistry—Miss Lucy Boole. Elementary Physics and Biology—Miss Ewart, B Sc. Principles and Practice of Medicine—Mrs. Garrett Anderson, M.D., and Dr. Horatio Donkin. Principles and Practice of Surgery—Mr. A. T. Norton. Materia Medica and Therapeutics—Dr. Harrington Sainsbury. Midwifery and Diseases of Women—Mrs. Scharlieb, M.D. Forensic Medicine—Dr. Dupre, F.R.S., Mrs. Dowson, L.R.C.P., L.R.C.S.I. Pathology—Mr. Quarry Silcock, M.D., F.R.C.S. Ophthalmic Surgery—Mr. Grosvenor Mackinlay, F.R.C.S. Mental Pathology—Dr. Mercier, F.R.C.S. *At the Hospital:* Clinical Medicine—Dr. Samuel West and Dr. Harrington Sainsbury. Assist. Physicians—Dr. Calvert, Dr. Andrews, Dr. Walter Carr. Clinical Surgery—Mr. A. B. Barrow, F.R.C.S., Mr. James Berry, F.R.C.S. Assist. Surgeons—Mr. Battle, Mr. Dodd, F.R.C.S., Mr. Roughton, F.R.C.S. Diseases of Women—Dr. W. Hayes. Ophthalmic Surgery—Mr. Grosvenor Mackinlay. Pathological Demonstrator—Dr. Andrews. Medical Tutor—Dr. Calvert. Surgical Tutor—Mr. Battle, F.R.C.S. Anæsthetist—Dr. Silk. Assistant to Anæsthetist—Miss Aldrich Blake, M.B., Lond. Minor Surgery—Mr. Dodd, F.R.C.S. Surgical Pathology—Mr. E. W. Roughton, F.R.C.S.

Fee for all the Lectures in the ordinary curriculum, £90; or if paid in instalments, £40 for the first year, £25 for the second, £20 for the third year, and £10 for the fourth year, the fifth being free. The fee for Hospital Instruction £35 if paid in one sum; or £15 for the first year, £15 for the second, and £10 for the third year.

Information respecting scholarships, &c., will be given on application to Mrs. Thorne, Honorary Secretary, or Miss Heaton, Secretary, at the School.

MRS. GARRETT ANDERSON, M.D., *Dean.* MISS COCK, M.D., *Sub-Dean.*

MEDICAL AND SURGICAL HOME,

39, YORK PLACE, PORTMAN SQUARE, W.

The Nursing by experienced Hospital Nurses, the house open, and quiet (for London). with exceptionally large rooms carefully fitted for the comfort of Invalids and the convenience of their Medical Advisers.

For all further information kindly apply to the Lady Superintendent, or to the Sister-in-Charge.

TELEGRAPHIC ADDRESS—"SUPERINTENDENT, LONDON."

ST. PETER'S HOSPITAL,

For Stone, Stricture, and Urinary Diseases, &c.

ESTABLISHED 1860.

HENRIETTA ST., COVENT GARDEN, W.C.

President—Rt. Hon. The Earl of Dunrayen and Mount-Earl, K.P.
Treasurer—F. A. Bevan, Esq.
Surgeons—
F. R. Heycock, Esq., F.R.C.S. | E. Hurry Fenwick, Esq., F.R.C.S.
F. Swinford Edwards, Esq., F.R.C.S. | Reginald Harrison, Esq., F.R.C.S.
Resident Medical Officer—Wm. R. Smith Esq., M.B. (Lond.), M.R.C.S.
Anæsthetist—
F. W. Braine, F.R.C.S., L.R.C.P. | C. C. Braine, F.R.C.S., L.R.C.P.

St. Peter's Hospital is intended for Persons of both Sexes suffering from Stone in the Bladder and other Diseases of the Genito-Urinary Organs.

The Practice of the Hospital is free to Medical Men and Students.

The Hospital contains 24 beds, and 3 Private Wards for Paying Patients.

The number of In-Patients treated during the last twelve months was **389**; **4928** Out-Patients, New Cases; **32,278** Attendances, Out-Patients. All Patients seen without letter or recommendation.

Attendance daily at 2, except Wednesday and Saturday; Monday, Wednesday and Saturday Evenings at 5; Fridays at 2, Women and Children only.

Clinical Arrangements.—Clinical Instruction in the Wards and Out-Patient Department is given at the following times, when the attendance of Practitioners and Students is invited:—

Monday, 2 till 3, Mr. Reginald Harrison, F.R.C.S.; Tuesday, 2 till 3, Mr. Heycock, F.R.C.S.; Thursday, 2 till 3, Mr. F. Swinford Edwards, F.R.C.S.; Saturday, 4 till 7, Mr. E. Hurry Fenwick, F.R.C.S. Consultations will be held and operations performed on Wednesday at 2, and on Friday at 2

A Donation of Ten Guineas constitutes a Life Governor; a Subscription of One Guinea an Annual Governor. Subscriptions and Donations will be thankfully received by Messrs. Barclay, Bevan & Co., 54, Lombard St., E.C.; Messrs. Hoare & Co., 37, Fleet St., E.C.; and by Irwin H. Beattie, the Secretary, at the Hospital.

The Middlesex Hospital Medical School.

Hospital Staff and Lecturers.—Consulting Physicians—Dr. Goodfellow, Dr. H. Thompson. Physicians—Dr. Cayley, Dr. Coupland, Dr. Douglas Powell, Dr. Fowler. Obstetric Physician—Dr. W. Duncan. Assistant Physicians—Dr. C. Y. Biss, Dr. Pringle, Dr. W. Pasteur, Dr. W. E. Wynter. Consulting Physician to Skin Department—Dr. Robert Liveing. Physician to Skin Department—Dr. Pringle. Assistant Obstetric Physician—Dr. R. Boxall. Consulting Surgeon—Mr. Nunn. Surgeons—Mr. Hulke, F.R.S., Mr. Lawson, Mr. Henry Morris, Mr. Andrew Clark. Assistant-Surgeons—Mr. Pearce Gould, Mr. J. B. Sutton. Ophthalmic Surgeon—Mr. Wm. Lang. Aural Surgeon—Mr. L. Hudson. Consulting Dental Surgeons—Sir J. Tomes, F.R.S., and Mr. Turner. Dental Surgeon—Mr. Storer Bennett. Assistant Dental Surgeon—Mr. Wm. Hern. Other Lecturers—Mr. B. Thompson Lowne, Dr. Plimpton, Dr. Mickle, and Dr. A. F. Voelcker.

SIXTEEN RESIDENT CLINICAL APPOINTMENTS are open to the Students annually.

ALL CLERKSHIPS and DRESSERSHIPS are awarded without fee.

TWO BRODERIP SCHOLARSHIPS, of the annual value of £30 and £20 respectively, each tenable for two years, are awarded every year for proficiency in Clinical Knowledge.

THE MURRAY SCHOLARSHIP, founded in connection with the University of Aberdeen, is awarded every third year to a Student of the Middlesex Hospital.

The GOVERNORS' PRIZE OF TWENTY GUINEAS is given annually to the Student who shall have most distinguished himself in Clinical work in the Out-patient Department during his third year.

The HETLEY PRIZE, value £25, is awarded annually for proficiency in Clinical Medicine, Surgery, and Obstetrics.

The LYELL MEDAL, value £5 5s., is awarded annually to second year's Students.

PRIZES.—A Prize in Elementary Anatomy and Physiology, value £5 5s., will be given to the Student who, at the end of his first Winter Session, shall pass the best written and practical examination.

An Exhibition of the value of £10 10s. will be given at the end of his second Winter Session to the Student who shall pass the best written and practical examination in Anatomy and Physiology.

Middlesex Hospital Entrance Scholarships.—Entrance Scholarships in Classics, Mathematics, and Natural Science are offered for competition at the commencement of the Winter Session. Full particulars may be obtained on application to the Dean. Successful candidates are required to become general students of the School.

SCHOLARSHIP IN ANATOMY AND PHYSIOLOGY.—An Annual Scholarship of the value of £30 a year, tenable for two years, is open to Students of the Univ. of Cambridge who have passed the 2nd M.B. Exam., and to Students of the Univ. of Oxford who have passed the 1st M.B. Exam. *Subjects:* Anatomy and Physiology, including Histology. Examination to take place in October.

THE TUTORS *assist all students, especially those who are preparing for examination, without extra fee; thus the necessity for obtaining private instruction is obviated.*

MEDICAL and SURGICAL REGISTRAR, RESIDENT MEDICAL OFFICER, DEMONSTRATORS of ANATOMY.—These valuable appointments are open to qualified men as they become vacant.

For further information apply to the Dean or the Resident Medical Officer, at the Hospital.

SIDNEY COUPLAND, *Dean.*

Yorkshire College, Leeds—Medical Department.

HOSPITAL STAFF.

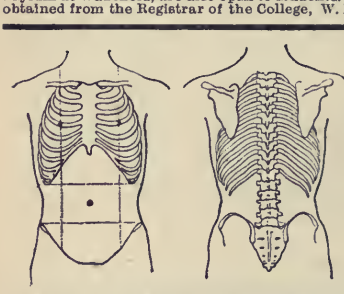
Consulting Physicians—T. Clifford Allbutt, M.A., M.D., F.R.S., F.R.C.P.; J. E. Eddison, M.D.
Consulting Surgeons—C. G. Wheelhouse, F.R.C.S. T. Pridgin Teale, M.A., M.B., F.R.S., F.R.C.S. T. R. Jessop, F.R.C.S.
Physicians—T. Churton, M.D.; A. G. Barrs, M.D., F.R.C.P.; Ernest H. Jacob, M.A., M.D.
Surgeons—E. Atkinson, M.R.C.S., F.L.S.; A. W. Mayo Robson, F.R.C.S.; E. Ward, M.A., M.B., B.C.; W. H. Brown, F.R.C.S.I., M.R.C.S.
Ophthalmic and Aural Surgeons—John A. Nunneley, M.B.; H. Bendelack Hewetson, M.R.C.S.
Obstetric Physician—James Braithwaite, M.D.
Assistant Physicians—C. M. Chadwick, M.A., M.D., M.R.C.P.; T. W. Griffith, M.D., C.M.
Assistant Surgeons—R. N. Hartley, M.B., B.S., Harry Littlewood, F.R.C.S.
Assistant Ophthalmic and Aural Surgeon—H. Secker Walker, F.R.C.S.
Dental Surgeon—T. S. Carter, L.D.S.

PROFESSORS, LECTURERS AND DEMONSTRATORS.

Medicine—Prof. J. E. Eddison, M.D., Consulting Physician Leeds Infirmary; T. Churton, M.D., Senior Physician Leeds Infirmary. Surgery—Prof. A. W. M. Robson, F.R.C.S., Surgeon Leeds Infirmary. Practical Surgery—E. Ward, M.A., M.B., B.C., Surgeon Leeds Infirmary. Descriptive, Applied, and Practical Anatomy—Prof. T. W. Griffith, M.D., C.M., Assistant Physician Leeds Infirmary; Physician to Leeds Public Dispensary. Lecturer on Osteology—Edmund Robinson, M.R.C.S. Practical Anatomy—Demonstrator: C. Baxter Tyrie, M.B., C.M. Honorary Demonstrators: G. L. Wells, M.B., B.S., F.R.C.S., Surgeon Leeds Public Dispensary; H. A. Smith, L.R.C.P., M.R.C.S. Physiology, Practical Physiology and Histology—Prof. De Burgh Birch, M.D., C.M., F.R.S.E. Demonstrator: A. Clarkson, M.B., C.M. Pathology and Morbid Histology—Prof. E. H. Jacob, M.A., M.D., Physician Leeds Infirmary. Midwifery—Prof. C. J. Wright, M.R.C.S., Senior Surgeon Leeds Hospital for Women and Children. Honorary Demonstrator—E. O. Croft, L.R.C.P. Diseases of Women and Children—J. B. Hellier, M.D., Surgeon Leeds Hospital for Women and Children. Forensic Medicine—T. Scattergood, M.R.C.S., Consulting Surgeon Leeds Hospital for Women and Children C. M. Chadwick, M.A., M.D., M.R.C.P., Assistant Physician Leeds Infirmary; Physician Leeds Public Dispensary. Demonstrator of Practical Toxicology—Julius B. Cohen, Ph.D. Materia Medica, Pharmacology, and Therapeutics—A. G. Barrs, M.D., F.R.C.P., Physician Leeds Infirmary. Demonstrator of Practical Pharmacy—F. W. Branson, F.I.C. Chemistry and Practical Chemistry—Prof. A. Smithells, B.Sc. Assistant Lecturer and Demonstrator: H. Ingle, F.I.C. Demonstrator—C. F. Baker, Ph.D., B.Sc. Biology, Botany, and Comparative Anatomy—Prof. L. C. Miall, F.R.S. Physics—Prof. W. Stroud, D.Sc., M.A. Operative Surgery—E. Ward, M.A., M.B., B.C., Surgeon Leeds Infirmary. Ophthalmology J. A. Nunneley, M.B., Senior Ophthalmic and Aural Surgeon Leeds Infirmary. Mental Diseases—W. Bevan Lewis, L.R.C.P., M.R.C.S., Medical Director West Riding Asylum, Wakefield. Hygiene and Public Health—R. N. Hartley, M.B., B.S., Assistant Surgeon Leeds Infirmary.

The Lectures and Hospital Practice qualify Students for the various Examining Boards. Students can enter for the Hospital Practice, or the Lectures, or for a Single Course of Lectures separately.

The Infirmary, in which the Medical and Surgical Practice is conducted, has an average of 400 In-Patients. Senior Students are selected, according to merit, for several Resident Appointments. The Dispensary, the Fever Hospital, the Hospital for Women and Children, and the West Riding Asylum at Wakefield, are also open to students. The Prospectus and further information may be obtained from the Registrar of the College, W. F. HUSBAND, LL.B.



The "PERFECT"

CLINICAL CHART.

Pocket-case Book, Case Sheets, Clinical Figures and Charts.

SPECIMENS SENT POST FREE BY

DANIELSSON & CO.,
52, Beaumont St., W.
(Contractors to H. M. Civ. Med. Dept.)
Specialists for Medical Illustrations.

MASSAGE AND ELECTRICITY.

JAMES SCOTT,

Certificated Masseur and Medical Electrician,

22, Beaconsfield Street, Princes Avenue, LIVERPOOL.

Local Medical References. *Prompt Attention.* *Moderate Charges.*

UNIVERSITY OF ABERDEEN.

FOUNDED 1494.

FACULTY OF MEDICINE.

THE Degrees in Medicine granted by the University are—Bachelor of Medicine, Bachelor of Surgery, Doctor of Medicine, and Master of Surgery. They are conferred only after Examination, and only on Students of the University. A Diploma in Public Health is conferred after Examination on Graduates in Medicine of any University of the United Kingdom.

The Faculty of Medicine embraces twelve chairs, from which instruction is given in all the main branches of Medical Science.

Practical Classes in connection with these chairs are conducted by the Professors and Assistants in Laboratories furnished with all the necessary appliances; and opportunities are afforded to Students and Graduates to extend their practical knowledge and engage in original research.

Instruction is also given in special departments of Medical Practice by Lecturers appointed by the University Court.

Clinical instruction is obtained in the Royal Infirmary, Royal Lunatic Asylum, the Sick Children's Hospital, the City [Fever] Hospital, the General Dispensary, and Lying-in and Vaccine Institutions and the Ophthalmic Institution.

Bursaries, Scholarships, and Fellowships, to the number of 46, and of the annual value of £1031, may be held by Students in this Faculty.

The cost of Matriculation, Class and Hospital Fees for the whole curriculum, exclusive of the fees for the Degrees, is usually about £80.

A prospectus of the classes, fees, &c., together with the regulations for Graduation in Medicine and Surgery, may be had on application to the Secretary of the Faculty of Medicine.

WILLIAM STEPHENSON, M.D., *Dean of Medical Faculty.*

ROYAL (Dick) VETERINARY COLLEGE,

8, CLYDE STREET, EDINBURGH.

TRUSTEES—THE LORD PROVOST, MAGISTRATES, AND TOWN COUNCIL OF THE CITY OF EDINBURGH.

The College Buildings have been entirely reconstructed, and the facilities afforded for the study of veterinary science are such as have not hitherto been available for Veterinary Students.

For Full Particulars apply to *Principal WALLEY.*

LIVERPOOL
ROYAL SOUTHERN HOSPITAL.

Physicians—Dr. J. Cameron, Dr. W. Carter, Dr. W. Williams.
Surgeons—Mr. H. G. Rawdon, Dr. W. Alexander, Mr. Robert Jones.
Pathologist—Dr. F. H. Barendt. *Dentist*—Mr. J. Royston.
Medical Tutor—Mr. C. J. Macalister. *Surgical Tutor*—Mr. W. H. C. Davey.
Senior House Surgeon—Mr. Wm. Crooke.
Junior House Surgeons—Mr. W. J. Woods and Mr. F. Hare.

200 Beds. Clinical Lectures given by the Physicians and Surgeons during the Winter and Summer Sessions. Clinical Clerkships and Dresserships open to all Students. Special Wards for Accidents and Diseases of Children. Rooms for a limited number of Resident Students.

Fees for Hospital Practice and Clinical Lectures—Perpetual £26 5s.; One Year, £10 10s.; Six Months, £7 7s.; Three Months, £4 4s. The practice of the Hospital is recognised by all Examining Bodies.

ST. JOHN'S HOSPITAL
FOR
DISEASES OF THE SKIN,
LEICESTER SQUARE, W.C.
President - THE EARL OF CHESTERFIELD.

The Out-Patient Practice may be attended free by Medical Practitioners every day (except Friday) from 1.30 to 4 p.m.

Lectures, followed by Clinical Demonstrations on cases presenting themselves in the Out-Patient Department, are given by DR. MORGAN DOCKRELL on Mondays at 6 p.m.

There are Three Courses in the year, and the Fee for a Course is £1 1s.

ST. VINCENT MERCIER, Secretary.

THE MARY WARDELL
Convalescent Home for Scarlet Fever.
STANMORE.

The Home stands in grounds of 4 acres, 450 feet above the sea level, 10 miles north-west of the Marble Arch. A large day-room and dormitories for 22 persons (Women and Children) of the working classes, and separate bedrooms, with a drawing-room and a dining-room, for the upper classes, at higher charges.

The Omnibus of the Home fetches the Convalescents from their homes or hospitals.

Rules and Terms of Admission may be obtained from the *Honorary Secretary*,

Miss MARY WARDELL, STANMORE, MIDDLESEX.

MILDMAY NURSING HOUSE,
9 & 10, NEWINGTON GREEN, LONDON, N.
(Nursing Branch of the Mildmay Deaconesses' Institution.)

Resident Superintendent, Miss DEAN. Trained Sisters and Nurses are sent into private families from this Establishment. Railway Station—Mildmay Park.

General Diseases	£1 11 6	per week.
Infectious Diseases & Operations, also Typhoid & Cancer	2 2 0	for first and second weeks.
" " " " "	1 11 6	for third & following weeks.

Telegrams, Travelling, and Laundress extra, and in infectious cases, 15/- on leaving.

Registered Address for Telegrams : "NURSING, LONDON."

CHARING CROSS HOSPITAL
MEDICAL SCHOOL.

ONE ENTRANCE SCHOLARSHIP of the value of 120 guineas and TWO of 60 guineas are awarded annually; also many other Scholarships, Medals, and Prizes.

FEES.—For the five years' curriculum of study required by the various Examining Bodies and for hospital practice, 110 guineas in one sum, or 121 guineas in five instalments.

The composition fee for Dental Students is 54 guineas, or 60 guineas, payable in two instalments of 30 guineas each.

A proportionate reduction of the above Fees will be made to those Students who have completed part of the curriculum elsewhere.

Charing Cross Hospital is within three minutes' walk of the Dental Hospital of London, and the hours of Lectures are arranged to suit the convenience of Dental Students.

The Hospital and School are situated within two minutes' walk of Charing Cross Stations, South-Eastern and District Railways.

A Prospectus, containing all information, will be forwarded on application to the Secretary, Mr. J. FRANCIS PINK, at the Office of the School, 62 to 65, Chandos Street, Charing Cross, between the hours of 10 and 4.

STANLEY BOYD, Dean.

HOSPITAL FOR
Consumption and Diseases of the Chest,
BROMPTON.

PUPILS are admitted to the practice of the Wards and the Out-Patient Department of the Hospital, on payment of a Fee of One Guinea for one month; Five Guineas for six months; Ten Guineas, Perpetual. Lectures and Demonstrations are given by Members of the Medical Staff on Wednesdays and Fridays at 4 p.m. Certificates of attendance on the Practice of the Hospital are recognised by the University of London, the Apothecaries' Society, and by the Army, Navy, and Indian Board.

WILLIAM H. THEOBALD, Sec.

GORDON HOSPITAL FOR FISTULA, PILES,
AND OTHER DISEASES OF THE RECTUM,
(ESTABLISHED 1884.)

278, VAUXHALL BRIDGE ROAD, LONDON, S.W.
(Close to Victoria Station.)

President—The Right Honble. Lord Herschell.

Treasurer—Sir Arthur Birch, K.C.M.G. | *Bankers*—Messrs. Hoare, 37, Fleet Street.

HONORARY MEDICAL STAFF.

Consulting Physician—Sir Francis Henry Laking, M.D., M.R.C.P., 62, Pall Mall. S.W.

Surgeons { W. T. Whitmore, Esq., F.R.C.S. Ed. 7, Arlington Street, Piccadilly, S.W.
{ C. J. Ogle, Esq., M.R C.S., 1, Cavendish Place, Cavendish Square, W.

Anæsthetists—R. Gordon Dill, Esq., M.A., and A. G. Faussett, Esq., M.B.

Resident Lady Superintendent—Miss Maxwell. *Secretary*—St. Leger Bunnett.

The Management is vested in a Committee of Governors who are elected at the Annual Meeting. The practice is open to the profession. Operating day, Tuesday at 2.30. Out-patients daily at 2 and Tuesday Evening at 8. Only poor people and those who are able to contribute towards their maintenance whilst in the Hospital are admitted. Private rooms are set aside for those who can afford to pay for them, but no one is taken in who can command special operative treatment at their own homes. In every case all moneys received from patients, or whatsoever other source, are entirely devoted to the Hospital.

Richmond, Whitworth & Hardwicke Hospitals, Dublin.

The Session, 1893–4, commenced on Monday, October 2, 1893. These Hospitals contain nearly 300 beds

PHYSICIANS—Sir J. T. Banks K.C.B., M.D., LL.D., Physician in Ordinary to the Queen in Ireland; Regius Professor of Medicine, Univ. Dublin: Member of the Senate of the Royal Univ. Ireland.

S. Gordon, M.D., ex-President College of Physicians; ex-President of the Royal Academy of Medicine.

Guy P. L'Estrange Nugent, M.D., R.C.P., Examiner in Medicine, Univ. Dublin; Registrar Royal College Physicians.

Joseph O'Carroll, M.D., Examiner in Medicine, Royal University.

SURGEONS—William Thomson, F.R.C.S.; Examiner in Surgery, R.C.S.; General Secretary Royal Academy of Med. Ireland; Member of the Senate of the Royal Univ. Ireland.

William Thornley Stoker, Vice-President R.C.S., Fellow and Examiner in Surgery, Royal University; Surgeon to Swift's Hospital for Lunatics.

Thomas Myles, M.D., F.R.C.S., Professor of Pathology and Member of Council Royal College of Surgeons.

OPHTHALMIC SURGEON—A. H. Jacob, M.D., Oculist to the Lord Lieutenant.

Apply to Mr. W. THOMSON, F.R.C.S., Treasurer, 54, St. Stephen's Green, E.; or to Dr. NUGENT, 19, Lower Fitzwilliam Street, Dublin.

Dr. STEEVENS' HOSPITAL, DUBLIN

CONTAINS 200 BEDS,

WITH DISTINCT WARDS for Fever and Syphilis, and extensive Dispensary for Out-Patients.

Hospital Staff.

Consulting Phys.—Dr. GRIMSHAW, Dr. J. LITTLE.
Consulting Surgeons—Dr. WILMOT, Sir G. H. PORTER, Bart.
Physicians—Dr. H. C. TWEEDY, Dr. R. A. HAYES,
Surgeons—Mr. E. HAMILTON, Mr. MCCAUSLAND, Mr. SWAN.
Resident Surgeon—Mr. W. C. HAMILTON.
Maternity Phys.—Dr. J. L. LANE.
Ophthalmic and Aural Surgeon—Mr. R. K. JOHNSTON.
Dental Surgeon—Mr. G. M. P. MURRAY.

The Apothecary, Mr. DARCY, gives instruction in Practical Pharmacy.

Attention is specially directed to the fact that most of the principal licensing bodies now fully recognise the important advantages to be derived from residence in hospital. The facilities for obtaining practical acquaintance with the treatment of injuries from accidents and other emergencies are unusually great in this institution, owing to its position; and there are always in the wards instructive cases of acute and chronic disease.

A new scale of fees for residence has been adopted—viz., Ten Guineas for Each Term of Three Months.

There is accommodation for two Medical and six Surgical Pupils, who are provided with separate furnished rooms, with coal and gas. There is also a comfortable common sitting-room for meals, which latter can be obtained at a reasonable rate.

A Prospectus and further Particulars may be obtained from the Resident Surgeon at the Hospital; or from RICHARD A. HAYES, M.D., Hon. Sec., 82, Merrion Square, South.

HOSPITAL TRAINED NURSES'
INSTITUTION AND INVALID HOTEL,
70, HOPE STREET, LIVERPOOL.

Provides Hospital Trained **NURSES** and **MALE** and **FEMALE** Attendants **for all cases** at any time day or night. Certified Monthly Nurses at moment's notice. **FEVER** Nurses reside in **separate home.**

Patients received for **Massage, Electricity,** Bath, and Hydropathic treatment.

Charges from One Guinea per Week.

Telephone **570.** *Telegraphic Address*—**"NURSES, LIVERPOOL."**

THE

HANOVER INSTITUTE FOR NURSES,

22, GEORGE STREET, HANOVER SQ., LONDON, W.

AND

1, LISMORE ROAD, EASTBOURNE.

TELEGRAMS:

"EASINESS, LONDON." "EASINESS, EASTBOURNE."

SOPHIA WALKER,

(*Certificated Medical and Surgical Nurse, Diplomée, L.O.S.*)

Matron and Proprietress.

SUPPLIES the Public with reliable Hospital-trained Nurses. The Staff reside on the premises. Within ten minutes of the receipt of a telegram a Nurse can be on her way to the case.

All Nurses from infectious cases undergo quarantine, at a Special Home provided for the purpose, prior to returning to the Institute.

Applications, stating nature of the illness and any particulars which might assist in the selection of a Nurse, to be made to either of the above addresses.

TERMS—PER WEEK OR PART OF A WEEK.

Medical Cases	£2 2 0
Surgical ,,	2 2 0
Mental ,,	3 3 0
Ovariotomy	
Massage	
Influenza	
Fever and all Infectious Cases	
Accouchement (the Month)	10 10 0

TRAVELLING EXPENSES, AND 2S. 6D. PER WEEK FOR WASHING, TO BE PAID TO THE NURSE.

MEDICAL SCHOOL FOR WOMEN,

UNIVERSITY OF GLASGOW. QUEEN MARGARET COLLEGE.

In Queen Margaret College, the WOMEN'S DEPARTMENT of the University of Glasgow, Women may obtain Degrees in Arts, Medicine, and Science on the same conditions on which these Degrees are open to men. A Full Course of Instruction in preparation for the Medical Degrees is given in the Classes for Women, which are held in Queen Margaret College, and are taught by Professors and Lecturers appointed by the University Court. The Curriculum, Regulations, and Fees are those of the University. The Women Students have access to the University Museum and Library.

LECTURERS.

Physics—Prof. Blyth, M.A., F.R.S.E.; *Zoology*—Prof. Young, M.D., and J. Rankin, B.Sc.; *Chemistry and Practical Chemistry*—Thomas Gray, B.Sc.; *Anatomy and Practical Anatomy*—Thomas H. Bryce, M.A., M.B., C.M.; *Physiology and Practical Physiology*—Prof. McKendrick, M.D., and W. Snodgrass, M.B., C.M.; *Materia Medica and Therapeutics, and Practical Pharmacy*—C. O. Hawthorne, M.B., C.M.; *Pathology and Practical Pathology*—J. Lindsay Steven, M.D.; *Surgery and Clinical Surgery*—W. J. Fleming, M.D.; *Medicine and Clinical Medicine*—J. Wallace Anderson, M.D.; *Obstetrics and Gynæcology*—Murdoch Cameron, M.D.; *Demonstrator in Anatomy*—J. H. Pringle, M.B., C.M.

HOSPITALS.

Royal Infirmary (110 beds are reserved there for Clinical Instruction for Women only); Royal Hospital for Sick Children; Glasgow Maternity Hospital; Eye Hospital, Charlotte Street; Royal Asylum for Mental Diseases, Gartnavel; City of Glasgow Fever Hospital, Belvedere.

The Summer Session begins on 23rd April; the Winter Session the middle of October.

For the Prospectus and further information, apply to the Hon. Secretary,

Miss GALLOWAY, Queen Margaret College, Glasgow.

TRAINED NURSES' HOME,

28, Windsor St., LIVERPOOL.

TELEPHONE 3516.

THOROUGHLY well-trained Certificated Nurses sent to any part of the Kingdom, upon the shortest notice, by applying to the Matron, Miss Watson.

MEDICAL, SURGICAL & FEVER NURSES.

Also MENTAL & DIPSOMANIA.

MONTHLY NURSES carefully selected and Certified.

Terms—One to Two Guineas per week, according to the case.

MASSAGE PATIENTS TAKEN INTO THE HOME.

Masseusses and Masseurs sent to Patients' own Residences.

LONDON HOMŒOPATHIC HOSPITAL

GREAT ORMOND STREET, BLOOMSBURY, W.C.

A GENERAL HOSPITAL FOR MEN, WOMEN & CHILDREN,

INCLUDING SPECIAL DEPARTMENTS FOR

Diseases of Women; Diseases of the Skin; Diseases of the Eye; Diseases of the Ear; Diseases of the Throat.

PATRON.

HER ROYAL HIGHNESS THE PRINCESS MARY ADELAIDE, DUCHESS OF TECK.

Vice-Patron, THE DUKE OF BEAUFORT, K.G. President,

Vice Presidents.

THE DUKE OF NORTHUMBERLAND.
THE DUKE OF WESTMINSTER, K.G.
THE EARL OF WEMYSS AND MARCH.
THE EARL OF DYSART.
Admiral, The Right Hon. the LORD CLARENCE PAGET, K.C.B.
THE LORD GRIMTHORPE.
SIR CHARLES ISHAM, BART.

HOSPITAL STAFF.

Consult. Phys.—Dr. Dudgeon, Dr. Dyce Brown.
Consulting Physician for Diseases of Women—Dr. G. M. Carfrae.
Consulting Surgeon—Dr. Yeldham.
Physicians—Dr. Galley Blackley, Dr. John H. Clarke, Dr. Byres Moir.
Assistant Physicians—Dr. Washington Epps, Dr. Marsh, Dr. Roberson Day, Dr. Edwin A. Neatby, Dr. Molson.
Surgeon—Mr. Knox Shaw.
Assistant Surgeon and Surgeon for Diseases the Throat—Mr. Dudley Wright.
Ophthalmic Surgeon—Mr. Knox Shaw.
Physician for Diseases of Women—Dr. G. H. Burford.
Physician for Diseases of the Skin—Dr. Galley Blackley.
Physician for Diseases of the Ear—Dr. R.T.Cooper.
Anæsthetist—Dr. Roberson Day.
Medical Registrar—Dr. Edwin A. Neatby.
Resident Medical Officer—Dr. J. P. R. Lambert.

Practical instruction in *Homœopathic Therapeutics* is given daily, in the Wards, and the Out Patient Department.

The instruction at this Hospital is specially intended for:—

1. Medical Men who are already qualified and who desire to obtain a knowledge of Homœopathy in addition to their other acquirements.
2. Medical Students in their fifth year.

Full particulars may be obtained from G. A. CROSS, *Secretary-Superintendent.*

"Nightingale" Trained Nurses Institution

AND HOME FOR INVALIDS,

8, Manchester Road, SOUTHPORT.

ESTABLISHED 1881.

TELEGRAPHIC ADDRESS: "EMERGENCY, SOUTHPORT."

Reliable Hospital-Trained Nurses for Medical, Surgical, Monthly, Mental and Fever Cases.

Certificated Masseuses and Electricians supplied at any moment.

Patients received into the Institution receive every home comfort, the House being large, airy, and close to the sea.

Terms from Two Guineas per Week.

SPECIAL ROOMS FOR ACCOUCHEMENT CASES.

For Terms, apply to Matron (Mrs. KRAUSE), Certificated Medical, Surgical, Monthly Nurse, Masseuse, Electrician, and Chiropodist.

THE DEAF, & THE SO-CALLED "DEAF AND DUMB,"

Society for Training Teachers of the Deaf, and Diffusion of the "German" System.

FOUNDED 1876. *INCORPORATED 1886.*

PRESIDENT—HIS GRACE THE ARCHBISHOP OF CANTERBURY.

The "German" or Pure Oral System teaches spoken and written language to the Deaf and "Dumb." It dispenses entirely with signs and the finger alphabet, and with the necessity in after-life of using pencil and tablets. Lip-reading taught to persons becoming deaf in adult life.

The Training College and School of the Society is situated at Castlebar Hill, Ealing, Middlesex.

Applications for the admission of Students and Pupils should be addressed to

MRS. ARTHUR KINSEY, *Lady Superintendent and Secretary.*

TRAINED MALE NURSES.

THE HAMILTON ASSOCIATION,

57, PARK STREET, GROSVENOR SQUARE, LONDON, W.

(*Telegraphic Address:* "ALUMNUS, LONDON.")

SUPPLIES Trained Male Nurses for Medical, Surgical, Mental and Dipsomania Cases in town or country. Terms, from TWO to FOUR Guineas per week, according to the severity of the case, and the experience of the nurse supplied. Also skilled Masseurs by week or hour.

EDINBURGH MEDICAL SCHOOL.

A LECTURER at the EDINBURGH SCHOOL OF MEDICINE receives RESIDENT STUDENTS, whom he prepares for the University or other examinations.

Address—**M.D., F.R.C.P.E.,**

37, George Square, Edinburgh.

BURROUGHS, WELLCOME & CO.,

Manufacturing Chemists, Exporters, and Importers,

SNOW HILL BUILDINGS, LONDON, E.C.

Cable and Telegraphic Address, "Burcome, London."

"TABLOIDS"

(TRADE MARK.)

OF

COMPRESSED DRUGS.

"TABLOIDS," which now occupy so prominent a place among therapeutic agents, have largely increased in number, and consequently in their range of utility, during the year 1893. A comparison of the list on the next page, with the list which appeared in the *Medical Annual* of last year will fully demonstrate this. We wish to draw special attention to the "Tabloids" of the new remedies. Agathin, Alumnol, Benzosol, Dermatol, Hypnal, and Iodopyrin, which have produced striking results in the treatment of the various diseases for which they are indicated, and which, we are confident, are destined to play an important part in the therapeutics of the future.

We have, further, been enabled to make considerable reductions in the prices of "Tabloids" (*vide* our latest price list).

Of the merits and advantages of "Tabloids" it is almost unnecessary to speak. Their portability, ready solubility, prompt and unimpeded action, absolute purity, moderate cost, convenient form, and accuracy in dosage have received testimony from the Medical profession in all parts of the world, as well as from explorers, travellers, etc., who have conveyed them, under the most trying conditions, through every variety of climate, and have brought back to us such as they have not required, in perfect condition. The fact that each "Tabloid" contains an exact quantity of the drug, thus doing away with weighing and measurement, and the risk of error by overdose which accompanies these operations, must appeal to the doctor who is obliged to leave his patient to the care of inexperienced and untrained persons, who, though they be attentive nurses enough, are liable to be much confused in any attempt to weigh or measure.

Then what a boon is the "Tabloid" system to the Medical Practitioner, whose practice is in a rural district extending over a large area, and who is obliged to carry with him in his carriage such an assortment of remedies as he is likely to want, or else must require his patients to send long distances for their medicines! Time, space, and energy are all saved if, instead of the ancient bulky and cumbersome forms of medicines, the doctor is equipped with a case fitted with an assortment of remedies in the "Tabloid" form. We supply pocket, hand, and carriage cases, ranging in capacity from five small vials to fifty bottles of various sizes, and the latter measures only 11½ by 5¼ by 6 ins.

It will thus be seen that it is by no means necessary to be encumbered and troubled with a large array of the tinctures, powders, infusions, etc., which formerly made up the medical armamentarium. Using "Tabloids," everything that is required is in small bulk, and, in addition to this, is confidently to be relied upon to produce in full measure the required physiological effect.

"Tabloids" of Tinctures are guaranteed to be accurately representative of the freshly standardized Tinctures of which they are made. Unlike tinctures themselves, they may be relied upon as proof against deterioration and decomposition, and being free from alcohol will commend themselves to those persons, and they are numerous, to whom intoxicants even in the form of medicine are objectionable.

Notwithstanding the extensive ground which our ever-lengthening list of "Tabloids" now covers, we have no intention of resting upon our oars. We are constantly making additions as well as improvements in old formulæ where improvements are possible. As well as meeting the requirements of the more progressive school, by preparing, when possible, "Tabloids" of all the new drugs, tested and approved by the faculty, we also provide for those who still cling to the old and well-tried remedies.

47

LIST OF SOLUBLE "TABLOIDS" OF COMPRESSED DRUGS.

(Prepared by BURROUGHS, WELLCOME & Co.)

TABLOID TABLOID TABLOID

Aconite Tinct., 1 and 5 min.
Agathin, 4 gr.
Aloin, 1/10 gr.
*Aloin, Compound (Anti-Constipation), (*Aloin, 1/5 gr.; Belladonna Ext., 1/8 gr.; Strychnine, 1/60 gr.; Ipecac., 1/16 gr.*)
Alumnol, 4 gr.
Ammon. Bromide, 5 and 10 gr.
Ammon. Chloride, 3, 5, and 10 gr.
Ammon. Chloride with Borax.
Antacid (Magnesio-Calcic), (*Calcium Carb. Præcip., 2½ gr.; Magnes. Carb. 2½ gr.; Sodium Chlorid., 1 gr.*)
Antifebrin, 2 gr.
Antim. Tartrate, 1/50 gr.
*Antipyrin, 2½ gr.
Antipyrin, 5 gr.
Apomorphine Mur., 1/50 gr.
Arsenious Acid, 1/100, 1/50, and 1/20 gr.
Atropia Sulph., 1/100 gr. [min.
Belladonna Tinct., 1, 5, and 15
Benzosol, 5 gr.
Bismuth Salicylate, 5 gr.
Bismuth Subnitrate, 5 and 10 gr.
Bismuth and Soda, 2½ gr. each.
*Blaud's Pill, 4 gr.
Blaud's Pill with Aloin.
Blaud's Pill with Arsenic.
Blue Pill, 3 gr.
Borax, 5 gr.
Caffeine Citrate, 2 gr.
*Calcium Sulph., 1/10 gr.
Calomel, 1/10, ¼, and 1 gr.
Camphor, Comp. Tinct. (Paregoric) 2, 5, and 15 min.
Cannabis Indicæ Tinct. 5 min.
Capsicum Tinct., 1 min.
*Cascara Sagrada Ext., 2 gr.
*Cascara Comp. (*Cascara Ext. Dry, 1 gr.; Euonymin, ¼ gr.; Nux Vomica Ext. 1/16 gr.; Hyoscyamus Ext., Dry, 1/8 gr.; Iridin, ¼ gr.*).
*Cathartic Comp., U.S.P. (*Ext. Coloc. Co. Pulv., ¼ gr.; Ext. Jalapæ Pulv. 1 gr.; Hyd. Subchlor., 1 gr.; Cambogiæ Pulv., ¼ gr.*).
Cerebrinin, 5 gr.
Charcoal (Pure Willow), 5 gr.
Chloralamid, 5 gr.
Chloral Hydrate, 5 and 10 gr.
Cinch. Co. Tr. 30 min.
Cinch. Simp. Tr. 30 min.
Cocaine Mur., 1 gr. [*see voice*).
Cocaine, with Potash and Borax
Copper Arsenite, 1/1000 gr.
Cretæ Aromat. cum Opio Pulv., 5 gr. (Aromatic Confection with Opium).
Cubeb and Belladonna, Effervescs. (Dr. L. Moore).
Cubeb Comp. (*Cubeb Pulv., 2 gr.; Ammon. Chlor., ¼ gr.; Ext. Glycyrrh.*).
Dermatol, 5 gr.
Dialysed Iron, 10 min.
Digitalin Tinct., 1 and 5 min.
Digitalin, 1/100 gr.
Diuretin-"Knoll," 5 gr. [*Opium*).
Dover Powder (*see Ipecac. and
*Easton's Syrup.
*Ergotin, 3 gr.
Euonymin Resin, 1/8 gr.
Exalgin, 2 gr.
Ferri Sulph. Exsic.
Gelsem. Semp. Tr., 5 min.
Gold Bromide, 1/100 gr.
Guaiacum & Sulphur, aa. 3 gr.
Hydrarg., Colocynth., et Hyos. (*Pil. Hydrarg., 2 gr.; Pil. Coloc. et Hyos., 4 gr.*).
Hydrarg. cum Cretâ, ¼, ½, & 1 gr.
Hydrarg. cum Cretâ, 1 gr., with Dover Powder, 1 gr.
Hydrarg. Iod. Rub., 1/16 gr.
Hydrarg. Iod. Vir., ¼ gr.
Hydrarg. Perchlor., 1/100 gr.
Hydrarg. Subchlor., 1/10 gr. (*see also Calomel*).
*Hydrastis Comp. (*Hydrastis Mur., ¼ gr.; Ergotin, ¼ gr.; Cannabin Tannate, ¼ gr.*)
Hydronaphtol, 3 gr.
Hyoscyam. Tr., 1 and 10 min.
Hypnal, 5 gr.
†Ichthyol, 2½ gr.
Iodic Hydrarg. 1/6 gr.
Iodopyrin, 5 gr.
Ipecac. and Opium, ¼ and 5 gr. (Dover Powder).
Ipecac. Powder, 1/10 and 5 gr.
Ipecac. Pulv. cum Antim. Tart., aa 1/100 gr.
*Iron and Arsenic Comp. (*Quinine Bisulph., 1 gr.; Iron Hypophosph., 2 gr.; Arsenic, Strych. Sulph., aa 1/50 gr.*).
*Iron and Quinine Cit. 3 gr.
*Laxative Vegetable (*Res. Podoph., Ext. Hyosc., Ext. Taraxc., aa ¼ gr.; Ext. Coloc. Pulv., 1 gr.; Ext. Jalapæ Pulv., Res. Leptand., aa ½ gr. Ol. Menth. Pip.*).
Lithia Carbonate, 2 gr.
*Lithia Co. (Mr. Hugh Lane). (*Lithia Benzoas, 3 gr.; Sulphur Præcip., 2 gr.; Quin. Salicy., ¼ gr.*).
Manganese Dioxide, 2 gr.
Magnes. Carb. Comp. (antacid) (*Pot. Bicarb., 2 gr.; Sodium Bicarb., 2 gr.; Magnes. Carb. Levis, 2 gr.; Sodium Chlorid., 3 gr.*)
Menthol. Co. (*Sodium Bic., 3 gr.; Menthol, ¼ gr.; Saccharin, ¼ gr.*)
Morphine Sulph. 1/20 and 1/8 gr.
Nasal, Alkaline (*Borax, 5 gr.; Sodium Chlor., 5 gr., effervescent*).
Nasal, Antiseptic and Alkaline, (*Sodium Bicarb., 5 gr.; Acid Carbolic, ¼ gr.; Borax, 5 gr.*)
Naso-pharyngeal (Dr. Macnaughton Jones' formula). (*Sodium Chlorid., Borax, Boric Acid, Benzoic Acid, Menthol, Thymol, Cocaine Mur., Ol. Gaultheriæ*).
Nitro-glycerine, 1/100 gr. (*see also Trinitrine*). [min.
Nux Vomica Tinct., 1, 3, and 10
Opium Tinct., 2, 5, and 10 min.
Opium, ¼ and 1 gr. [*loids*").
Pancreatin (*see Zymine "Tab-*
Papain, 2 gr. (Dr. Finkler & Co.)
*Pepsin (Fairchild), 1 gr.
Pepsin, Saccharated, 5 gr.
Pepsin, Bismuth, and Charcoal. (*Pepsin, 1 gr.; Bismuth, 2 gr.; Charcoal, 2 gr.*).
*Peptonic, 8 gr. (*Pepsin, Pancreatin, and Lactophosph. of Lime, p. æq.*).
*Peptonic (new process), (*Zymine, 1 gr.; Calcium Lactophosphate, 1 gr., coated with keratin. Pepsin Pure, 1 gr., is then added, and the complete "Tabloid" coated with pure white sugar*).
Phenacetin (Bayer) 5 gr.
Pilocarpin Mur., 1/20 gr.
Podophyllin Resin, ¼ gr.
Podophyllin Co. (*Podophyllin, 1/6 gr.; Pil. Rhei Co. 2½ gr.; Ext. Hyos., 1½ gr.* (Sir Wm. Moore).
Potass. Bicarb., 5 gr.
Potass. Bromide, 5 and 10 gr.
Potass. Chlorate, 5 gr.
Potass. Chlorate with Borax
Potass. Iodide, 5 gr.
Potass. Nit. (Sal Prunella), 5 gr.
Potass. Permanganate, 1 & 2 gr.
Potass. Salicylate, 5 gr.
Quinine Bisulphate, ¼ gr.
*Quinine (Bisulph.), 1, 2, 3, and 5 gr.
Quinine Sulph. same strengths, sizes and prices as Quinine Bisulphate.
Reduced Iron, 2 gr.
Resorcin, 3 gr.
*Rhubarb Comp. (Pill), 3 gr. (*Rhei Pulv. 1½ parts; Aloes Soc. Pulv. 1 part; Saponis Pulv., 5/8 part; Myrrhæ Pulv. 5/8 part; Ol. Menth. Pip.*).
Rhubarb Comp. Powder (improved formula,, (*Sodium Bic., 3 parts; Mag. Carb. Powd., 3 parts; Rhei Pulv., 2 parts; Zingib. Pulv., 1 part*).
Rhubarb Comp. Powder (Gregory Powder), 5 gr.
Rhubarb and Gentian (Stomachic Comp.), (*Infusion Gentian Co., 2 fl. dr.; Infusion Rhei, 2 fl. dr.; Sodium Bic., 5 gr.; Ol. Menth. Pip., ½ gtt.*).
Rhubarb and Soda, 5 gr. (*Rhei 3 parts; Sodium Bicarb., 2 parts; Zingiber, ½ part*).
Rhubarb, 3 gr.
Saccharin, ¼ gr.
Salicin, 5 gr.
Salol, 5 gr.
Santonin, ¼ gr.
Soda-Mint, or Neutralising "Tabloids." (*Sodium Bicarb., 4 gr.; Ammon. Carb., ½ gr.; Ol. Menth. Pip., ¼ gr.*).
Sodium Bicarbonate, 5 gr.
Sodium Dithio-salicylate, 5 gr.
Sodium Salicylate, 3 and 5 gr.
Sodium Sulphate, Effervescs.
Strophanthus (2 minims of Tincture in each).
Sulphonal, 5 gr.
Sulphur Comp. (Sir A, Garrod's formula) (*Sulph. Præcip., 5 gr.; Potass. Bitart., 1 gr.*).
Tannin, 2½ gr.
Tar, 1 gr.
Tar, 1 gr., with Codeine ¼ gr.
Test "Tabloids" (for preparing Fehling's Solution).
Thirst.
Thyroid Gland, 5 gr.
Tinct. "Tabloids." In oval bottles and bottles of 100.
*Tonic Comp. (*Iron Pyrophos., 2 gr.; Quinine, 1 gr.; Strych., 1/100 gr.*).
Trinitrine (Nitro-glycerine), 1/100 and 1/50 gr.
Trinitrine and Amyl Nitrite.
Trinitrine Comp. (*Trinitrine, 1/100 gr.; Nitrite of Amyl, ½ gr.; Capsicum, 1/50 gr.; Menthol, 1/50 gr.*).
Urethane, 5 gr.
Vin. Ipecac., 5 min.
Voice (*Potash, Borax & Cocaine*).
Warburg Tincture, 30 min. in ea.
Zinc Permanganate, 2 gr.
Zinc Sulphate, 1 and 10 gr.
Zinc Sulpho-carbolate, 2 gr.
Zingib. Fort. Tinct., 5 min.
†Zymine (Fairchild).
†Zymine Comp. (Fairchild) (*Zymine, 2 gr.: Bismuth Subnit., 3 gr.: Pulv. Ipecac. 1/10 gr.*).

* May also be obtained sugar coated. † May be obtained keratin or sugar coated.

HYPODERMIC "TABLOIDS.'

Hypodermic medication is seldom resorted to except in cases of emergency; how important is it then that the agents used should, in respect to purity and reliability, be absolutely above reproach. The general adoption of the Hypodermic method was very tardy. The celebrated French doctor, Bernard, wrote:—"I think . . . that subcutaneous absorption, which has only been employed upon man in exceptional cases, ought to become the general method for the administration of all potent drugs." Since Bernard's time, Hypodermic medication has made great strides, but even in the present day it is not so generally used as it might be. Now why is this? There has always been, perhaps, a great objection among patients themselves to subcutaneous injection, and the old and cumbersome syringes and clumsy needles rendered the operation unnecessarily painful, but the chief reason of its slow progress has undoubtedly been, that the doctor could not place any reliance upon his agents. It is to be expected that the absorption of contaminations and decomposition products into the cellular tissue may be very serious, and as a matter of fact so frequent were the untoward and unlooked for effects produced, by the use of ready-made solutions, that doctors at length became almost afraid to resort to the Hypodermic method at all. Then antiseptics were tried to bring about the preservation and sterilization of solutions, but they failed to entirely prevent the formation of micro-organisms. No satisfactory solution of the difficulty was conceived until Hypodermic "Tabloids" were offered to the medical profession as a method which absolutely obviated all the objections to the use of ready-made solutions.

The fact cannot be too pointedly emphasized, that solutions for Hypodermic injection should in all cases be prepared at the moment, and it is to enable this to be done with a minimum of trouble and risk that Hypodermic "Tabloids" were introduced. They are tiny discs each containing an absolutely exact quantity of alkaloid, combined with a perfectly soluble and innocuous base. It takes only a few seconds to produce a perfect solution, and we feel justified in saying that no other method for the ready preparation of solutions at the time of using offers the same advantages to the practitioner as the employment of Hypodermic "Tabloids." They may also be used sub-lingually with great advantage in some cases.

LIST OF HYPODERMIC "TABLOIDS.

Put up in Tubes, each containing 20 "Tabloids," with the exception of those marked with an asterisk, which contain 12 "Tabloids."

	No.
Aconitine, Nitrate Crystalline ..	1/260 gr. 36
Apomorphine Hydrochlorate ..	1/10 gr. 19
Apomorphine Hydrochlorate ..	1/15 gr. 51
Atropine Sulphate	1/150 gr. 15
Atropine Sulphate	1/100 gr. 14
Atropine Sulphate	1/60 gr. 18
*Caffeine Sodio-salicylate	1/2 gr. 43
Cocaine Hydrochlorate	1/10 gr. 23
Cocaine Hydrochlorate	1/8 gr. 22
*Cocaine Hydrochlorate	1/2 gr. 40
*Cocaine Hydrochlorate	1/4 gr. 54
Codeine Phosphate	1/4 gr. 44
Colchicin	1/100 gr. 45
*Cornutin Hydrochloride	1/60 gr. 53
Curáre	1/12 gr. 46
Digitalin, Crystalline	1/100 gr. 30
Ergotinin Citrate	1/100 gr. 37
Ergotinin Citrate	1/200 gr. 38
Eserine Salicylate	1/100 gr. 39
Homatropine Hydrochlorate ..	1/250 gr. 47
Hydrarg. Perchlor.	1/60 gr. 29
Hydrarg. Perchlor.	1/30 gr. 28
* {Hydrarg. Sozoiodol.. .. .. {Sodium Bromide	1/4 gr. } 67 1/2 gr. }
Hyoscine Hydrobrom.	1/200 gr. 49
*Hyoscine Hydrobrom.	1/75 gr. 48
*Hyoscine Hydrobrom.	1/10 gr. 60
*Hyoscyamine Sulph...	1/80 gr. 31
*Hyoscyamine Sulph...	1/20 gr. 41
Morphine Bi-meconate	1/8 gr. 27
Morphine Bi-meconate	1/6 gr. 26
Morphine Bi-meconate	1/4 gr. 25
Morphine Bi-meconate	1/3 gr. 24
Morphine Hydrochlor.	1/4 gr. 55

	No.
Morphine Sulphate	1/12 gr. 6
Morphine Sulphate	1/8 gr. 5
Morphine Sulphate	1/6 gr. 4
Morphine Sulphate	1/4 gr. 3
Morphine Sulphate	1/3 gr. 2
*Morphine Sulphate	1/2 gr. 1
{Morphine Sulphate .. .. .. {Atropine Sulphate	1/12 gr. } 12 1/250 gr. }
{Morphine Sulphate .. .. .. {Atropine Sulphate	1/8 gr. } 11 1/200 gr. }
{Morphine Sulphate .. .. .. {Atropine Sulphate	1/6 gr. } 10 1/180 gr. }
{Morphine Sulphate .. .. .. {Atropine Sulphate	1/4 gr. } 9 1/150 gr. }
{Morphine Sulphate .. .. .. {Atropine Sulphate	1/3 gr. } 8 1/120 gr. }
* {Morphine Sulphate.. .. .. {Atropine Sulphate	1/2 gr. } 7 1/100 gr. }
Nitro-glycerine	1/250 gr. 65
Pilocarpine Hydrochlor.	1/10 gr. 34
Pilocarpine Hydrochlor.	1/6 gr. 64
*Pilocarpine Hydrochlor.	1/3 gr. 33
*Pilocarpine Hydrochlor	1/2 gr. 32
*Quinine Hydrobromate	1/2 gr. 42
*Sclerotinic Acid	1/2 gr. 21
*Sclerotinic Acid	1 gr. 20
Sodium Phosph. Co.	69
*Sparteine Sulphate	1/2 gr. 56
Strophanthin	1/500 gr. 52
Strychnine Nitrate	1/15 gr. 62
Strychnine Nitrate	1/10 gr. 61
Strychnine Sulphate	1/150 gr. 18
Strychnine Sulphate	1/100 gr. 17
Strychnine Sulphate	1/60 gr. 16

HYPODERMIC CASE FOR DENTISTS.

We have recently introduced this with a view to providing a handy and compact case, furnishing every requirement for hypodermic use in dental practice. The case measures $4\frac{3}{4} \times 2\frac{1}{4} \times 1\frac{1}{4}$ inches, and contains a specially constructed syringe, with both curved and straight incorrodible needles, a removeable syringe holder, which is a unique feature, Hypodermic "Tabloids" of Cocaine, $\frac{1}{4}$ and $\frac{1}{2}$ gr.; Atropia Sulph., 1/150 gr.; Morphia Sulph. $\frac{1}{4}$ gr.; Caffein, $\frac{1}{2}$ gr.; Apomorphia, 1/10 gr.; and a small glass mortar and pestle. Medical men who devote particular attention to dentistry will not fail to appreciate the convenience and portability of this case.

OPHTHALMIC "TABLOIDS."

These are introduced to supply the long felt want of a method of treating complaints and affections of the eye, which is easy of application, certain in effect, and free from objections from the patient's point of view. The frequent instillation of a solution is very distressing, and is often even injurious, since it disturbs the absolute rest which is so important a consideration in the treatment: besides, only a small quantity is retained, and that quantity is so diluted by the lachrymal secretion as to become very partial in effect. Gelatine discs stick to the eyelid and take a long time to dissolve, so becoming disagreeable to the patient. Ophthalmic "Tabloids" obviate all these defects, and constitute a perfectly sterile and reliable mode of administering remedies to the eye. They are minute discs of the thickness of note-paper, extremely delicate in appearance, very soluble, and prepared with a perfectly innocuous and non-irritating basis. Each "Tabloid" holds a definite quantity of alkaloid. With two exceptions they are intended to be inserted within the conjunctival sac as they are, and when placed *in situ*, the eye being kept closed for a few minutes after insertion, they are immediately dissolved in the secretion and diffused over the surface of the eye.

We append a list of "Tabloids" already issued, to which we hope to make additions from time to time. In ordering or prescribing it is sufficient to quote the distinguishing letter only, for instance: "Ophthalmic Tabloids," A (B., W. & Co.).

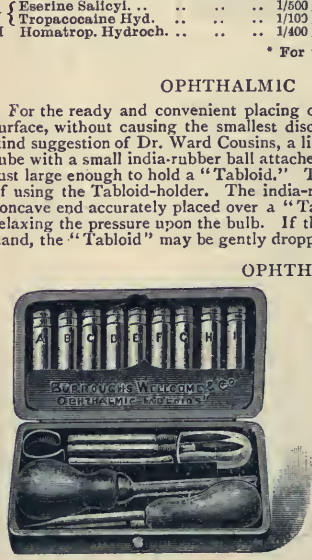
A	Atropia Sulph.	1/200 gr.
B	Atropia Sulph.	1/200 gr.
	Cocaine	1/200 gr.
C	Cocaine	1/20 gr.
D	Atropia Sulph.	1/20 gr.
E	Homatrop. Hydroch.	1/40 gr.
F	Eserine Salicyl.	1/600 gr.
G	Eserine Salicyl.	1/500 gr.
	Tropacocaine Hyd.	1/100 gr.
H	Homatrop. Hydroch.	1/400 gr.
*J	Hydrarg. Perchlor.	1/100 gr.
K	Pilocarpine	1/400 gr.
L	Tropacocaine Hyd.	1/80 gr.
M	Pilocarpine	1/500 gr.
	Cocaine	1/200 gr.
N	Homatrop. Hydroch.	1/600 gr.
O	Homatrop. Hydroch.	1/240 gr.
	Cocaine	1/24 gr.
*P	Boracic Acid (perfumed with Otto of Roses)	6 gr

* For use in solution.

OPHTHALMIC "TABLOID" HOLDER.

For the ready and convenient placing of Ophthalmic "Tabloids" upon the conjunctival surface, without causing the smallest discomfort to the patient, we have introduced, at the kind suggestion of Dr. Ward Cousins, a little instrument consisting of a celluloid or vulcanite tube with a small india-rubber ball attached. The tube has a concave termination which is just large enough to hold a "Tabloid." The following directions will render clear the mode of using the Tabloid-holder. The india-rubber ball must first of all be compressed, and the concave end accurately placed over a "Tabloid," so that it is drawn into the concavity upon relaxing the pressure upon the bulb. If the eyelid be everted with the forefinger of the left hand, the "Tabloid" may be gently dropped into the outer canthus.

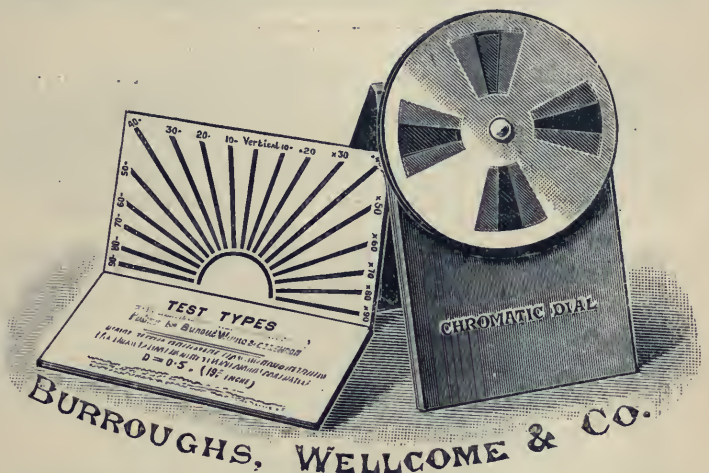
OPHTHALMIC CASE.



This case measures $2\frac{3}{4} \times 1\frac{3}{4} \times 1\frac{1}{4}$ inches, and contains a medicine dropper, "Tabloid" holder, two camel-hair brushes, a small glass mortar and pestle, and nine tubes of Ophthalmic "Tabloids." Nothing so complete, practical, compact, and portable has hitherto been placed at the disposal of the medical profession in this direction. To practitioners in rural districts and other places remote from the chemist, the Ophthalmic Case must necessarily become a *vade mecum*, since whilst it is so small that it can be carried in the pocket almost without its presence being felt, it comprises a representative selection of those agents generally called for in ophthalmic practice, with apparatus for applying them.

CHROMATIC DIAL FOR TESTING COLOUR VISION.

This supplies a ready and reliable mode of testing colour perception which is far more easy of application in general practice than the ancient methods. We feel confident that its simplicity will commend it to the medical profession, as a valuable aid in the detection of some of the functional defects of the nervous system of the eye.



The contrivance consists of two cardboard discs, five inches in diameter, one fixed, and the other revolving upon a central pin common to both. The test colours red, pink, and green, are painted around perforations in the revolving card, and through these apertures the confusion colours on the fixed card can successively be brought into comparison with them. The Dial must always be used in a good light. It is also supplied with test types for ascertaining the acuteness of vision.

"SOLOIDS."

For use as Disinfectants in Cholera or other Epidemics.

Under this designation we have classed those forms of compressed drugs of a highly toxic and dangerous nature, with the object of avoiding confusion with "Tabloids" intended to be taken *per os*. The three "Soloids" referred to below are all intended for the same purpose—viz., the instant production of strongly antiseptic solutions.

THE L. G. B. "SOLOIDS"

Have been prepared at the kind suggestion of Dr. William Murrell; two "Soloids" on being dissolved in a quart of water make a solution of the strength and character recommended in the Local Government Board Memorandum of 1892. These L. G. B. "Soloids" are highly convenient and rapidly soluble in ordinary well-water, and their peculiar but perfectly harmless colouration and terebinthine odour are safeguards against poisoning by accident or mistake. White fabrics soaked in the "Soloid" solution are stained a very light blue, but this colour is nearly discharged by merely rinsing the fabric in cold water, so that no damage is caused to linen, &c., with which it may come in contact. These L. G. B. "Soloids" will be found extremely useful in cases of epidemics, and for disinfecting purposes generally.

"SOLOIDS" OF IODIC HYDRARG.

This combination of the Iodides of Mercury and Potassium (Mercuric-Potassio-Mercuric-Iodide) is said to possess twice the bactericidal strength of Mercuric Chloride, to be not nearly so toxic, not to precipitate Albumen, and not to be liable to cause irritation. Two "Soloids" dissolved in a pint of water will make a solution (1:4000 approximately) sufficiently effective to produce complete asepsis of the hand or of instruments after operation, or for use in obstetric practice.

"SOLOIDS" OF HYDRARG. PERCHLORIDE.

May be used conveniently in surgical and gynæcological work for the preparation of solutions for irrigating wounds or the uterine organs. One "Soloid" dissolved in a pint of water will give a solution of which the strength will be 1:1000. These "Soloids" are characteristically coloured and shaped, so as to render mistakes almost impossible.

PHOTOGRAPHIC "TABLOIDS."

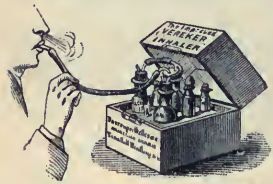
These "Tabloids" being prepared by dry compression do not decompose, and retain in their fullest activity the qualities of the salts of which they are composed, and so, in contradistinction to prepared solutions, which undergo oxidation, decomposition, and other changes, whilst they are inconvenient of transport, we have uniformity, reliability, and portability.

Eikonogen "Tabloids."
Eikonogen with Quinol.
Paramidophenol.
Pyrogallic Acid.
Pyrogallic Acid with Eikonogen.

Quinol (or Hydrokinon).
Accelerator "Tabloids" for Pyro, Eikonogen, Pyrol and Quinol, Eikonogen and Quinol, Paramidophenol, &c.

Restrainer "Tabloids" Bromide of Potassium 1 gr. each, and Bromide of Ammonium 1 gr. each.
Gold Toning "Tabloids."

VEREKER CHLORIDE OF AMMONIUM INHALER.



In chronic catarrhal states of the mucous membrane of the nose, throat, or bronchi, inhalations of the neutral fumes of the Vereker Inhaler are probably unequalled. They enable the engorged membrane to free its meshes of inflammatory deposit, and seem to act as a resolvent. Deafness, due to catarrh, has been cured by this vapour. The Vereker Inhaler is a complete apparatus, and incurs no special trouble in using. It is always ready for use.

Price 5/-, in box.

THE PINOL EUCALYPTIA DRY INHALER.

This little instrument will be found a convenient substitute for medicated steam inhalations, as far as volatile medicaments are concerned. It consists of a glass tube filled with absorbent pine-wood chips; upon this, through the wide end of the tube, the inhalant is poured. The Inhaler is light, portable, and easily cleaned, and is thoroughly efficient in every way for the treatment of cold in the head, nasal catarrh, malarial fever, and lung complaints generally. From mild catarrhal troubles, to cases of virulent lung disease, this Inhaler is adapted to a very wide range of usefulness.

In Boxes, with small Sample Bottles of Pinol and Eucalyptia, 1/2 each.

EAR DRUMS, ARTIFICIAL AND ANTISEPTIC.

These, designed by Dr. WARD COUSINS, consist of cones the shape of a Welsh hat, made of compressed cotton wool coated with plastic collodion and rendered antiseptic. They are intended for use in cases of perforation of the tympanum. They are easily inserted in the aural meatus by the patient himself, and can be extracted without trouble. Their cheapness enables the patient to employ a clean antiseptic drum each day.

"The demonstration in the Otological Section of the British Medical Meeting at Birmingham of the use of Dr. WARD COUSINS' antiseptic tympanic membranes in the relief of deafness was very successful; all the six patients introduced and to whom it was applied derived benefit from its introduction, and the aurists present testified their approval of its structure and uses."—BRITISH MEDICAL JOURNAL, Aug. 23rd, 1890.

In Boxes containing 3 dozen drums, at 9d. per box.

Combination Probe and Forceps, for Insertion and Extraction, 8d. each.

PAROLEINE ATOMISERS (B. W. & CO.).

The B. W. & Co. "Paroleine" Atomisers are more easily used than the ordinary complicated instruments; they are very portable, simply constructed, and easily freed from all traces of medicament. Many of the remedies commonly used in throat diseases are insoluble in water, and other solvents usually employed are contra-indicated on account of their irritating influence on the mucous membrane.

THE POST NASAL AND LARYNGEAL 'PAROLEINE' ATOMISER (B. W. & Co.).
Price, 5s. 2d.

THE NASO-PHARYNGEAL 'PAROLEINE ATOMISER (B. W. & Co.).
Price, 3s. 5d.

The use of "Paroleine" with these Atomisers represents altogether a new departure. It enables medicated solutions to be applied to parts for which they have not hitherto been employed.

"Paroleine" is an oily substance, DEVOID OF COLOUR, TASTE, AND SMELL, AND DOES NOT, LIKE GLYCERYL FATS, BECOME RANCID. It is admirably adapted to serve as the medium for many of the medicaments employed as inhalations or sprays.

The NASO-PHARYNGEAL ATOMISER may also be used for Throat spraying—the patient being directed to inspire as the spray cloud is delivered from the mouth of the Atomiser.

"Paroleine" is supplied in 4-oz. and 1-lb. bottles, at 9d. & 2/- per bottle.

DERMATOL DUSTING POWDER

Is a perfect preparation for Toilet and Nursery use. The formula was originally suggested by DRS. HEINZ and LIEBRECHT with the view of embodying and utilizing the valuable properties of Dermatol for the daily requirements indicated. This new Toilet Powder may be taken as being absolutely non-poisonous, free from odour, and free from all possible irritating material. The properties of Dermatol, either as a vulnerary or for its soothing effect in chafed and irritable conditions of the skin, its drying and antiseptic character, are well-known and recognized in many memoirs that have appeared of late; and the Dermatol Dusting Powder, which is a combination of Dermatol with pure rice starch powder, will readily recommend itself, when this fact is considered, as a high-class toilet preparation. In boxes containing 50 grammes (about 1¾ ounces) each.

Dermatol Dusting Powder supplied in boxes at 8d. each.

KEPLER ESSENCE OF MALT.

Although without doubt beer has long been a national beverage, there exists abundant evidence to prove that, whether due to sophistication or other causes, it has in recent years played a prominent part in the creation of *disease*. Beers in general demand contain a very small percentage of nutrient material. After many exhaustive experiments we have succeeded in making a pure unfermented Essence of Malt, which is highly appreciated as a beverage and dietetic agent. A well-known physician and Professor of Physiology in a London Hospital School,wrote recently:—"The problem has at last been solved, I think satisfactorily, of supplying a pure, highly nutritious, almost non-alcoholic malt liquor, in the form of Malt Essence. This is a clear, thin, cherry-red or brownish coloured syrup, of distinctly pleasant malty flavour, and of such a consistence that it can be taken just as it is poured out of the bottle without the least repugnance. It contains every element which exists in the thicker Malt Extract, the only difference being that it is not nearly so concentrated. In comparing this Malt Essence with beer it is to be borne in mind that the following are the relative positions :—

ACTION AND USES.

1.—While beer contains nutritive maltose or malt sugar, Malt Essence contains a great deal more.

2.—While beer contains a fair amount of peptogen, dextrine, Malt Essence again contains much more.

3.—Beers contain *no diastase*, the whole of the ferment having been destroyed by heat in the final process of brewing. Malt Essence is rich in diastase, which, as is well known, plays an important part in the digestion of farinaceous foods.

4.—Malt Essence contains far more vitalized phosphates.
5.—Beer contains a large percentage of alcohol.
6.—Beer has a tendency to turn sour and then disturb digestion. Essence of Malt is free from this objection.
7.—The best beer contains only 8 per cent. of nutritious substance. Essence of Malt contains 52·61 *per cent. of dry extract* (Helbing and Passmore, PHARMACOLOGICAL RECORD).

Essence of Malt (Kepler) is capable by reason of its *diastasic ferment* of digesting its own weight of starch in twelve minutes.

When used for ordinary drinking, Essence of Malt requires dilution. It is very palatable and nutritious if mixed simply with water in the proportion of one tablespoonful to each tumblerful. In the same way it may be mixed with milk or soda-water and milk; in such cases it is both most agreeable to the palate and easily digested, the Essence of Malt preventing the casein of the milk curdling in large clots when it comes in contact with the acid of the gastric juice.

AS A BEVERAGE.

As a food in fevers nothing can be more agreeable and nutritious than one or two tablespoonfuls of Essence of Malt added to an equal quantity of fresh cream or half a tumbler of fresh milk, and the glass filled with aërated water makes a delicious drink. This combination, containing the proper proportions of fat, carbohydrates, and phosphates, forms an ideal food for building up muscle, brain, and bone substance.

AS A FOOD IN FEVERS.

The Essence will also be very convenient for use in place of syrup as a sweetening agent for farinaceous dishes, porridge, pancakes, medicinal and other fluids, while its digestive powers will greatly assist in the assimilation of all starchy foods. It possesses an important advantage over preparations of cane or beet sugar, in that it is not liable to acetous fermentation.

It is an admirable addition to milk, which it agreeably sweetens, and also exerts a decided digestive or solvent action upon the casein. If a tablespoonful of the Essence be added to a glass of milk and the mixture warmed, acid may afterwards be added without producing the heavy clot of casein which is observed when vinegar or acid is added to ordinary milk. It is, therefore, desirable as an infant food; and a little salt or bi-carbonate of soda may be added for this purpose.

Nauseous medicines are rendered agreeable to the palate by Essence of Malt, and it is very generally employed in place of syrups when prescribing iron, quinine, iodide of potassium, glycerinum pepticum, nux vomica, &c. The Essence renders the mixture as nearly palatable as possible, and assists the absorption of the medicine.

AS A FLAVOURING AGENT.

THE KEPLER BITTER ESSENCE OF MALT

Is a non-intoxicating preparation which contains all the nourishing, digestive, and reconstructive elements of English Barley Malt and Kentish Hops. A temperance beverage, really delicious, may readily be made by mixing two tablespoonfuls with a tumbler of aërated water (Soda, Apollinaris, Rosbach, &c.). The Kepler Bitter Essence of Malt is an agreeable appetising Tonic. To those who object to the sweet character of the ordinary Kepler Essence, the "Bitter" will be found to be a very acceptable alternative.

Kepler Essence of Malt, and Kepler Bitter Essence of Malt, supplied in champagne pints and quarts, at 1s. 2d. and 2s. each.

BURROUGHS, WELLCOME & CO.,

MANUFACTURING

Chemists, Exporters, and Importers,

SNOW HILL BUILDINGS,

LONDON, E.C.

Also NEW YORK, MELBOURNE, PARIS, BRUSSELS.

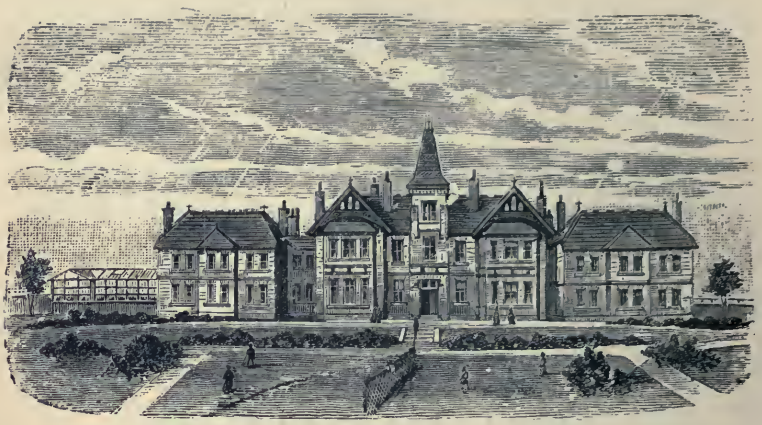
FISHERTON HOUSE ASYLUM,

SALISBURY.

FOR PRIVATE INSANE PATIENTS.

Terms, 16s. Weekly.

APPLY TO DR. FINCH.



SHAFTESBURY HOUSE,

FORMBY-BY-THE-SEA,

Near LIVERPOOL.

Private Asylum Licensed for the Treatment of Ladies and Gentlemen mentally afflicted.

VISITING PHYSICIAN—THOMAS R. GLYNN, M.D. Lond., F.R.C.P. Lond., Senior Physician Liverpool Royal Infirmary.

CHAPLAIN—Rev. J. B. RICHARDSON, M.A., Green Lea, Formby.

Plans approved by Commissioners in Lunacy.—This Asylum has been erected from plans approved by the Commissioners in Lunacy, and in every possible way in accordance with the modern ideas of the treatment of Mental Disease.

The Rooms throughout the building are large, airy, cheerful, light, very brightly furnished, and, as the walls are tinted in various colours, there is a complete absence of anything approaching to dulness or gloom.

Warming, Ventilation, and Drainage.—Each Sitting Room, Dormitory, and Corridor is warmed and ventilated by special means besides the ordinary fireplace, and the drainage is perfect.

Sea Air.—This Asylum, being situated about a mile from the sea, Patients have the benefit of sea air.

Private Rooms. — Private Rooms and special attendants provided whenever required.

Accommodation for Friends.—Friends of patients wishing to be near during treatment can be accommodated.

Grounds and Amusements.—There are about ten acres of ornamentally laid out Pleasure Grounds, which afford ample privacy and room for exercise, Lawn Tennis and other amusements.

Medical Opinion.—The Asylum has been visited by a large number of medical men in Liverpool and neighbourhood, all of whom have expressed themselves as highly pleased with the arrangements.

Train Service.—Formby Station is about ten minutes' walk distant. Trains run to and from Formby nearly every half hour to Southport, as also to the Exchange Station, Liverpool, and there is now direct communication with the North, and with London, and the South of England by means of the London and North-Western Railway.

Terms, &c.—Terms and all information can be obtained from

STANLEY A. GILL B.A., M.D., M.R.C.P. Lond.
Resident Physician.

CHURCH STRETTON ASYLUM,

STRETTON HOUSE, CHURCH STRETTON, SHROPSHIRE.

ESTABLISHED 1853.

This institution is exclusively for the reception of Gentlemen of the Upper and Middle Classes. Its popularity and success must be attributed in a great measure to the open manner in which it is conducted; instead of being a place to be avoided, as asylums were in times past, it is the resort of the better class families for recreation and amusement, and we are of opinion that the proprietor has taken a step in the right direction, and one that will still further command the confidence of the public, by providing accommodation for the friends of patients, who will thus have an opportunity of satisfying themselves as to the mode of treatment and the comforts afforded The charges are moderate, according to the requirements of the patients.—FROM THE MEDICAL PRESS.

Church Stretton is situated in the Highlands of Shropshire (600 ft. above sea level), amidst the most charming mountain scenery, and has a very invigorating and bracing atmosphere. One great object of this institution is to find healthy and congenial occupation for its patients, and thus assist the special medical treatment. Every inducement is held out for patients to interest themselves, either on the large farm attached to the house, and which supplies direct both beef, mutton, and agricultural produce; or in the workshops, in gardening, &c. There are numerous tennis courts and a private cricket ground; carriage exercise is provided for those who desire it, and walks of several miles in length can be had in the grounds and on the hills without going on the public road. One result of these facilities is that just 50 per cent. of the patients are on parole (having very considerable liberty) or have fixed occupations to interest themselves in daily, and thus the almost unavoidable feeling of restraint is very largely decreased.

The house has recently been enlarged and renovated, handsome suites of rooms being provided for first-class cases. Medical men are cordially invited to visit this Asylum and judge of its advantages for themselves; if desired, an album containing photographs of the house and surrounding scenery will be forwarded.

A charming sea-side residence has recently been rented for the benefit of convalescent patients. Reference permitted to reports of Commissioners in Lunacy and many Medical men all over the country.

The friends of patients and a few voluntary patients can now be received as boarders. Church Stretton is on the Shrewsbury and Hereford main line, 12 miles from Shrewsbury, and can be reached from London (Euston or Paddington) in 5 hours, Birmingham 1¾ hour, Bristol 4 hours, Liverpool and Manchester 2¾ hours, Edinburgh and Glasgow 8 hours, Derby and Nottingham 5 hours. Stretton House is ten minutes' walk from the Station.

Apply to the Supt., C. W. CAMPBELL-HYSLOP, Stretton House, Church Stretton. Medical Supt., DR. HORATIO BARNETT, M.A., M.B. and B.C. (Cantab), M.R.C.S. and L.R.C.P. (Lond.).

Attendants Supplied on Shortest Notice.

Telegrams—"CAMPBELL-HYSLOP, CHURCH STRETTON."

THE GROVE, JERSEY.

Proprietor—F. NEEL GAUDIN, M.P.C., M.R.C.S. Eng., L.S.A.

A HOME for a limited number of Ladies and Gentlemen of the Upper Classes afflicted with *Nervous and Mental Diseases.*

The Estate is healthily situated on the high ground, 2 miles from St. Heliers, commanding extensive views over St. Aubin's Bay with its islet Forts, and the towns of St. Heliers and St. Aubin's with their shipping, and comprises a Park of 11 acres, besides gardens and farm land, and a Mansion of handsome proportions in which all is arranged with a view to the *comfort and privacy of home.*

The Grove (owing to its Southern aspect and protection from the North and East, together with the natural mildness of the Jersey climate) is especially suited to those whose constitutions are delicate or temporarily reduced through Alcohol, Drugs, Hysteria, or Nervous and Mental Diseases, whilst from its lofty situation the air is *bracing and invigorating.*

The Amusements and Occupations include Tennis, Boating, Billiards, Gardening and Farming, &c.

Sea Bathing (hot and cold), Private Machines on beach, 10 minutes' walk.

Associated and single rooms, or *self-contained suites of* 2, 3, *or* 4 *rooms.*

Voluntary Boarders and Friends of Patients can be accommodated. Horse and carriage exercise. Special arrangements can be made for Ladies and Gentlemen to keep their own private horses and carriages.

For Terms and particulars (descriptive, legal, means of access, &c.), apply to—

CHAS. CALDECOTT, M.B., B.S. Lond., M.R.C.S., Res. Med. Sup.,

THE GROVE, JERSEY.

INCORPORATED BY *ROYAL CHARTER.*

JAMES MURRAY'S ROYAL ASYLUM, PERTH.

CHAIRMAN - - - THE VISCOUNT STORMONT.

This Asylum for PRIVATE PATIENTS only, is beautifully situated in the immediate vicinity of Perth, in the midst of extensive PLEASURE GROUNDS, which are surrounded by Fields of the HOME FARM.

The main building has been modernized and enlarged by the addition of Two WINGS for the reception of acute cases, fitted with most recent improvements in the means of treatment of the Insane, so as to render it an EFFICIENT HOSPITAL as well as a COMFORTABLE HOME.

The MANSION HOUSE of KINCARRATHIE, in the neighbourhood, has been taken on lease; and Houses at the SEASIDE and in the PERTHSHIRE HIGHLANDS are rented annually.

There are ample means of OCCUPATION and AMUSEMENT, and the entire arrangements are of a DOMESTIC CHARACTER.

The RATES OF BOARD vary according to the requirements and circumstances of each case. Those at the Higher Rates have private rooms and special attendance.

The Directors refer the friends of those requiring treatment to the REPORTS OF THE COMMISSIONERS IN LUNACY.

DR. URQUHART, *Physician Superintendent.*

NATIONAL TELEPHONE CO.: No. 104, PERTH.
POSTAL & TELEGRAPHIC ADDRESS: DR. URQUHART, PERTH.

BAILBROOK HOUSE, BATH

For the Care and Treatment of Ladies and Gentlemen Mentally afflicted.

ESTABLISHED 58 YEARS.

Proprietors:

DR. LIONEL A. WEATHERLY. | DR. C. SPENCER COBBOLD,
MRS. LIONEL A. WEATHERLY. | *Late Superintendent Earlswood Asylum.*

Resident Medical Proprietor: DR. LIONEL A. WEATHERLY.

Beautiful Mansion standing in 30 acres of well-wooded Park, with lovely views of Bath and surrounding scenery. Fifteen minutes' drive from G.W.R. and Midland Stations, Bath. *Telephone No.* 49.

Horses & Carriages, Billiards, Lawn Tennis, Fishing, Boating, etc.

Great Improvements have recently been made in house and surroundings, *Vide* Visitors' and Commissioners' Reports.

A NEW WING HAS BEEN ADDED WITH EVERY MODERN IMPROVEMENT.

Terms inclusive from 2½ to 10 guineas per week, according to circumstances of case and accommodation required.

PRIVATE HOSPITALS,

LICENSED UNDER GOVERNMENT INSPECTORS' SUPERVISION,
FOR PATIENTS OF THE UPPER CLASS SUFFERING FROM

Mental and Nervous Diseases,

HIGHFIELD (FOR LADIES). | **HAMPSTEAD** (FOR GENTLEMEN).

AT

DRUMCONDRA, Near DUBLIN.

Telephone No. 1032.

Voluntary Patients admitted without Medical Certificates.
Patients suffering from the Disease of Inebriety can be admitted either voluntarily or under Medical Certificates.
Relatives or Friends who desire to reside with Patients in the Establishment can do so.
There are Cottages for Special cases on the demesne (154 acres).
Carriage and horse exercise is provided for the Patients in the best manner.

THE PROPRIETOR,

JOHN EUSTACE, B.A., M.D. Univ. Dub., L.R.C.S.I., J.P.;

AND THE ASSISTANT MEDICAL SUPERINTENDENT,

JOHN NEILSON EUSTACE, B.A., M.B., B.Ch., B.A.O. Univ. Dub.,
Reside in the Establishment.

Members of the Medical Profession, and all persons properly interested in the Patients, are invited to visit and inspect these Establishments at any time they please.
Further information can be obtained at the office of Drs. EUSTACE, 41, Grafton Street, Dublin.

BOREATTON PARK.

THIS PRIVATE ASYLUM, which was founded by the late W. H. O SANKEY, M.D., F.R.C.P., for the reception of a small number of ladies and gentlemen mentally afflicted, is now conducted on the same lines by his Sons, H. R. O. SANKEY, M.B. Lond., M.R.C.S. Eng., late Medical Superintendent of the Warwick County Asylum; and E. H. O. SANKEY, M.A., M.B., B.C. Cantab.

The Ladies' division is under the direction of Mrs. A. SANKEY, widow of the late A. O. SANKEY, L.R.C.P.

The Mansion stands in extensive grounds, and is surrounded by a park, in which are some 70 head of deer, and commands a magnificent view of Welsh Mountain scenery.

For exercise and recreation are provided Carriages, Horses, Tennis Courts, Golf Links, Billiards, etc. The right of fishing in 5 miles of the River Perry is leased, and other fishing always obtainable in the immediate neighbourhood.

The Institution is situate about 10 miles from Shrewsbury, within easy distance of Baschurch Station, G.W.R.

Letters and Telegrams should be addressed to

DR. SANKEY, Boreatton Park, BASCHURCH, SALOP.

KINGSDOWN HOUSE,

BOX, WILTS.

A Private Home, with every comfort and convenience for those suffering from Mental and Nervous Diseases.

The situation is most healthy and picturesque, amongst the Wiltshire Downs, fifteen minutes from Box Station, and five miles from Bath.

The house stands in its own grounds, in the gardens of which the Patients employ and amuse themselves with tennis, croquet, &c., and the close proximity of country walks affording them the great advantage of extended exercise.

Voluntary Boarders can be received under the New Statute without Certificate.

Friends of patients, if desirous, may reside in the house *pro tem.*

Terms moderate, for which apply to

H. CRAWFORD MACBRYAN, Res. Med. Supt.

Late of the London County Asylum, Hanwell, W.

HARPENDEN HALL,

HERTS.

A PRIVATE ASYLUM FOR LADIES.

It is four miles from St. Alban's, and twenty-five from London, on the Midland Railway.

A. MACLEAN, *Proprietor and Medical Superintendent.*

PECKHAM HOUSE,

PECKHAM, S.E.

Extensive arrangements are made in this Asylum for the reception of Private Patients of both sexes.

Terms from 25/- per Week.

Further particulars can be obtained upon application to the RESIDENT PHYSICIAN.

THE

ASYLUM for IDIOTS,

EARLSWOOD, REDHILL,

SURREY.

Under the Patronage of Her Most Gracious Majesty the Queen.

This National Institution has accommodation for 700 Patients, and all that Science and kindness can suggest is brought into requisition for the comfort and improvement of the Inmates.

Provision is made for Payment Cases, commencing at 60 guineas a year, including Clothing; or higher rates, according to the requirements of the case, and have all the comforts of a *Private House*, as well as instruction and amusements. Proposals for admission to be addressed the Secretary, who will supply the Forms and all information on application.

Inmates are also received each half-year by the votes of the Subscribers.

An Annual Subscriber has One Vote at each Election for each Half-Guinea contributed, and a Life Subscriber has One Vote at each Election during Life for each Five Guineas contributed.

H. GERARD HOARE, Esq., Treasurer.
JAMES DOWNING, Secretary.

Offices:
36, KING WILLIAM STREET,
LONDON BRIDGE, E.C.

THE GROVE HOUSE,

CHURCH STRETTON,

SHROPSHIRE.

Private Home for Ladies of Upper and Middle Classes. Extensive grounds situate in the midst of charming country. Terms from Two Guineas per week.—For further particulars apply to Mrs. McLintock; or to

Horatio Barnett, M.A., M.B., &c.

THE LAWN, LINCOLN.

Registered Hospital for Mental Diseases, containing from 60 to 70 patients, situate in the City of Lincoln, close to the Cathedral.

FOR TERMS APPLY TO

DR. RUSSELL, Resident Medical Superintendent.

THE GOVERNORS OF THE ROYAL HOSPITAL OF BETHLEHEM

Are prepared to receive a limited number of Patients at Two Guineas a week, inclusive.

All particulars may be obtained from the Resident Physician or the Steward of the Hospital,

ST. GEORGE'S ROAD,

LONDON, S.E.

THE WARNEFORD ASYLUM, OXFORD,

FOR THE CARE AND TREATMENT OF INSANE OF BOTH SEXES OF THE UPPER AND MIDDLE CLASSES.

President: THE RIGHT HON. THE EARL OF JERSEY.
Chairman of Committee: THE REV. THE WARDEN OF NEW COLLEGE, OXFORD.

THE Asylum is pleasantly situated on Headington Hill, and has been recently enlarged, the new accommodation being arranged, as far as is compatible with the requirements of an Asylum, in the manner of an ordinary private residence.

The ordinary charge for Patients is £2 2s. a week, but the Committee have power to increase or reduce the charges at their discretion. When a reduction of the ordinary charge is asked, a statement of the circumstances of the Patient should be made by letter to the Committee.

Voluntary Boarders are also received.

Special Rooms and Attendants may be had if required.

For further particulars apply to the Medical Superintendent,

J. BYWATER WARD, M.D.

Private Asylum,

FIDDINGTON HOUSE,

MARKET LAVINGTON, WILTS.

This is a quiet and refined Home for a limited number of Ladies and Gentlemen, situated most pleasantly and healthily in about thirty acres of pleasure-grounds, gardens, &c. The domestic comforts and arrangements are personally superintended by Mrs. HITCHCOCK. Every out-door and in-door amusement is provided for the patients, including tennis, croquet, billiards, music, dancing, and carriage exercise.

There is now a vacancy for a Lady or Gentleman.—For terms apply

C. HITCHCOCK, M.D., Prop. and Resident Med. Supt.

Boarders received under the new Lunacy Act without certificate.

48

BARNWOOD HOUSE,

GLOUCESTER.

A Registered Hospital for Private Patients only, of the upper and middle classes. Arranged and furnished with all the most approved appliances for the treatment, comfort, and amusement of the inmates. Within two miles of the Railway Station, and easily accessible by Rail from London and all parts of the kingdom. Is beautifully situated at the foot of the Cotswold Hills, and stands in its own grounds of 240 acres.—For Terms, &c., apply to—

JAS. GREIG SOUTAR, M.B., C.M.,
Resident Superintendent.

WONFORD HOUSE (HOSPITAL FOR THE INSANE),

NEAR EXETER.

A Registered Hospital for the Upper and Middle Classes.

This Institution is situated in a beautiful and healthy locality, within a short distance of the City of Exeter. There is comfortable accommodation at moderate rates, both in the Hospital itself and at Plantation House, Dawlish, a seaside residence on the South Devon Coast, affording more privacy, with the benefits of sea-air and a mild and salubrious climate. Private rooms and Special Attendants provided, if required. Voluntary Patients or "Boarders," not under certificates, also received.

For Terms, &c., apply to P. MAURY DEAS, M.B., M.S. Lond., Resident Medical Superintendent.

TREATMENT OF INEBRIETY.

DALRYMPLE HOME,

RICKMANSWORTH, HERTS.

For Gentlemen, under the Act, and privately.

TERMS, 2 TO 5 GUINEAS.

APPLY TO
R. WELSH BRANTHWAITE, *Medical Superintendent.*

HAYDOCK LODGE,

Newton-le-Willows, LANCASHIRE,

Is charmingly situated in a healthy and retired neighbourhood, midway between Liverpool and Manchester, about 2 miles from Newton-le-Willows Station on the London and North Western Railway. It is a comfortably-furnished Country Mansion, especially adapted for the care and treatment of persons of unsound mind.

Besides the use of the general sitting-rooms, &c., patients of both sexes can have private apartments and special attendants at moderate rates of payment. Information as to terms, &c., may be obtained on application to the Resident Medical Superintendent,

CHARLES T. STREET, L.R.C.P. Lond., M.R.C.S. Eng.

Telegrams: "STREET, ASHTON-IN-MAKERFIELD."
Telephone (National): "No. 3, ASHTON-IN-MAKERFIELD."

Vis. Phys.—ALEX. DAVIDSON, M.D., F.R.C.P., Phys. to the Liv. Roy. Infirm.

FLOWER HOUSE,

CATFORD, S E.

A Sanatorium of the highest class for the treatment and cure of gentlemen of unsound mind.

APPLY TO

DR. MERCIER,

RESIDENT MEDICAL SUPERINTENDENT.

N.B.—Under the New Act voluntary boarders can be received on their own personal application.

PLYMPTON HOUSE,

PLYMPTON, SOUTH DEVON.

ESTABLISHED 1834.

Plympton House is the only Private Asylum in Devon and Cornwall. It is licensed for 23 male and 21 female patients. The house, which is a fine old country mansion, is situated in the midst of an estate of 30 acres of Park land; is five miles from Plymouth, and one mile from the Plympton Station of the Great Western Railway. The climate of South Devon is such as to recommend this Asylum as being particularly fitted for Insane Persons who are the subjects of Pulmonary Diseases. Male Patients can be received at present on particularly favourable terms.

Letters and Telegrams should be addressed to

Dr ALDRIDGE, PLYMPTON, SOUTH DEVON,

The Resident Physician and Proprietor.

HIGH SHOT HOUSE,

ST. MARGARET'S, TWICKENHAM, MIDDLESEX.

Consulting Physicians:—

T. R. LEESON, M.D., C.M.; G. A. BOLTON, M.A., M.B., B.C.

Res. Med. Supt.—**DOUGLAS ANDERSON, M.B., C.M.**

For Gentlemen suffering from Alcoholism, Morphinomania, and the abuse of drugs.

Patients admitted under the Acts and privately.

For full particulars apply to the MEDICAL SUPERINTENDENT.

TELEGRAMS—"HIGHSHOT, TWICKENHAM."

HAYES PARK,

HAYES, MIDDLESEX.

This House stands in a Park and Pleasure Grounds 50 acres in extent, and is licensed for the reception of a limited number of Ladies, for whom Carriages are kept and Summer and Winter Amusements provided.

Particulars and Terms to be had of the RESIDENT PROPRIETOR, and at

14, YORK PLACE, PORTMAN SQUARE, W.

NORTHWOODS HOUSE,

WINTERBOURNE, NEAR BRISTOL.

Private Asylum for Ladies and Gentlemen.

Situated in a large park in a healthy and picturesque locality, easily accessible by cab from Bristol, or from Fishponds, Yate, or Patchway Stations.

THE BUILDING IS FIREPROOF.

For further information, see London Medical Directory, p. 1901, and for Terms, &c., apply to Dr. EAGER, Resident Physician, Northwoods House.

Dr. Eager attends at 63, PARK STREET, BRISTOL, on Mondays and Thursdays, from 12 to 3 o'clock.

CHURCH STREET, EPSOM.

This Home has been established over forty years for the Care and Treatment of Ladies suffering from Mental Ailments.

Terms, etc., on application to Dr. DANIEL, who resides in the house.

PUBLIC HEALTH LABORATORY WORK.

LIVERPOOL COLLEGE OF CHEMISTRY,

(School of Science, Technology, and Art),

96, DUKE STREET, LIVERPOOL.

Classes in Public Health Laboratory Work and Bacteriology are conducted under Dr. GEORGE TATE, F.I.C., F.C.S. Certificates of attendance are accepted by the Edinburgh University, and by the Royal Colleges of Physicians and Surgeons (Lond.).

ABBEY GREEN, JEDBURGH.

Established 1871.

Dr. BLAIR receives into his House a limited number of Patients suffering from Mental and Nervous Disorders.

Dry Climate. Beautiful District. Terms Moderate.

DOWNSIDE LODGE, CHILCOMPTON,

Near BATH.

This Home (long established) for the Training and Education of Girls of the Upper Classes, who are Mentally Afflicted and unfit for ordinary schools, is under the personal care and superintendence of Miss PAGE, who has had much experience in such cases. References to Medical Men and others.—Terms, &c., on application.

TAYLOR'S
AUTOMATIC DISINFECTOR.

Automatically Disinfects House Drains connected with the W.C every time latter is used.

See DR. PRIESTLEY'S *Article on Sanitation, page* 590 *of this Book.*

COST ONLY 10/6 PER ANNUM.

Apply—

TAYLOR'S AUTOMATIC DISINFECTOR, Limited,

10, Queen Avenue, Castle Street, LIVERPOOL

EDUCATIONAL HOME

FOR

Children of Retarded Mental Development.

Dr. SHUTTLEWORTH,

for twenty-three years Medical Superintendent of the Royal Albert Asylum for Imbecile Children, Lancaster, receives into his Private Residence a limited number of Pupils, who, in consequence of mental backwardness or peculiarity, require special training under Medical Supervision.

The House stands in extensive grounds on the summit of Richmond Hill, adjoining the Park.

FOR TERMS AND PARTICULARS, APPLY TO

G. E. SHUTTLEWORTH, B.A., M.D., ETC.,

ANCASTER HOUSE, RICHMOND, SURREY.

N.B.—Patients requiring to be certified under the "Idiots' Act" not received.

FEEBLE-MINDED PATIENTS

"TWO ELMS," SIDCUP, KENT.

A PRIVATE HOME for the Care, Training, and Treatment of BACKWARD and FEEBLE-MINDED PATIENTS of good social position (not under certificates).—A limited number of Feeble-minded Patients, capable of improvement, are received. Personal supervision, individual care and attention, combined with all the comforts and privacy of home life. The house is situated in a healthy, picturesque part of Kent, ten miles from London and one mile from the Railway Station, and has peculiar facilities for the accommodation of young Ladies suffering from nervous diseases.

For particulars apply to Resident Physician, late Medical Superintendent of a large Asylum for the Feeble-minded.

THE MORNINGTON,

SOUTHPORT.

A High Class
Family & Residential
Temperance Hotel.

Prospectus, &c., from
JAMES COWIN,
Proprietor.

SOUTHPORT is the Villadom of the North, and the most beautiful Town in the Kingdom, combining the facilities and enjoyments of City life, with a bright, clear, dry, salubrious climate, and admirably adapted for throat and chest affections; remarkable for its exemption from zymotic diseases, and for its low death-rate.

PHILP'S
DUNBLANE HYDROPATHIC,
PERTHSHIRE.

Recently acquired by Mr. Philp, Late Proprietor of the Cockburn Hotel, Edinburgh.

Situated in one of the healthiest and loveliest parts of Scotland, forming a most excellent Winter and Spring Residence.

Climate mild and equable, completely sheltered from the north winds.

The arrangements of the House are, beyond all question, the finest in Britain. A most complete system of heating is adapted over the whole house at an average of 60 degrees.

Recreation and Billiard Rooms, Gymnasium, etc.; Red Ash and Grass Lawn Tennis Courts.

BATHS—Russian, Turkish, Electric, Pine, etc. Massage treatment for Ladies and Gentlemen under experienced London trained attendants.

The Sanitary Arrangements are Perfect.

Within easy access of the Trossachs, Loch Katrine, Loch Lomond, Loch Tay, Loch Earn, etc.

Resident Physician.

No Intoxicants allowed. About an hour's rail from Glasgow and Edinburgh.

GOLF COURSE OF NINE HOLES.

THE HAMMAM OR TURKISH BATH,

76, JERMYN STREET, S.W.

(FOUNDED 1862.)

Total number of Bathers to 31st Oct., 1893—1,028,409

The Bath is open daily from 7 a.m. to 9 p.m.; on Sunday from 9 a.m. to 3 p.m. (Entrance by side door.)

TERMS OF ADMISSION.

Annual Ticket .. .. £8 8s.

7 a.m. to 7 p.m. { Single Ticket 4s. / Twelve Tickets 36s. (3s. each.) } After 7 p.m. .. Single Ticket 2s.

Members of the Medical Profession (on presenting their card) can obtain Medical Tickets at the reduced rate of 2s.

No Tickets issued after 8 p.m. Bath Closes at 9 p.m.

CAFÉ, OR RESTAURANT.

Breakfasts and Luncheons are served from 8 a.m. to 5 p.m., according to a fixed tariff. Oriental dishes are supplied. Coffee, Chocolate, Sherbet, Tobacco and Light Wines are also sold during the hours the bath is open.

Hair Dressing Gallery in the Bath for the use of bathers.

Messrs. GREGORY & MACKINTOSH, Chiropodists, of 132a, Regent Street, have, for the convenience of Bathers, a private room in the Bath, where they are in attendance daily.

SOUTHPORT SUNNYSIDE HYDRO.

Physician: **Dr. BARNARDO.**

Summer and Winter Residence. One of the handsomest buildings in Southport, centrally situated, replete with every comfort. Fine Sea View. Near Parks, Pier, Trams, and Golf Links.

Turkish, Vapour, and other Baths.

MASSAGE, GALVANISM. —:— TERMS MODERATE.

PROPRIETOR: J. BOOCOCK.

INTEMPERANCE.

For LADY PATIENTS suffering from Intemperance, or from the excessive use of Drugs.

The Institution is managed by voluntary workers: there are no paid assistants. The Income, after paying the expenses, is devoted to the general extension of the work.

Apply—REV. ARTHUR TOOTH,
WOODSIDE, CROYDON.

DEESIDE HYDROPATHIC ESTABLISHMENT,

HEATHCOT, near ABERDEEN.

The Climate of Deeside is the most healthy and bracing in Great Britain. Residents in this Establishment have the privilege of preserved Salmon and Trout Fishing in the River Dee, as it runs through the Estate of Heathcot.

The Turkish and other Baths are constructed with all the latest improvements necessary for the practice of Hydropathy.

TERMS PER WEEK, £2 10s.; FOR TWO HAVING SAME BEDROOM, £2 5s. EACH. FROM 1ST NOVEMBER TO 30TH APRIL, £1 15s.

For particulars apply to Dr. STEWART, Medical Superintendent, Heathcot, near Aberdeen.

SMEDLEY'S HYDROPATHIC ESTABLISHMENT,

MATLOCK, DERBYSHIRE.

Railway Station:—MATLOCK BRIDGE. Telegraph Office:—MATLOCK BANK.

Consulting, Resident, and House Physicians.

The TURKISH and RUSSIAN BATHS are specially adapted in ventilation and otherwise to the requirements of Invalids.

MASSAGE and ELECTRIC TREATMENT are at command.

As a WINTER RESIDENCE this place is specially adapted for sufferers from Chest disorders, Rheumatism, and Gout, affording warm and well-ventilated Public Rooms, Bedrooms and Corridors. The covered Balconies permit open-air exercise in all weathers. There is a large Billiard Room with two tables, a Smoking Room, and an American Elevator, and the Public Rooms and Corridors are lighted throughout by electric light. The numbers during the winter months rarely fall below 130.

For full particulars see the Prospectus, to be had on application to

THE MANAGER.

The Mentone of England.

HAZELWOOD

Hydropathic Establishment,

Grange-over-Sands,

LANCASHIRE.

Magnificent Building in own grounds, 100 feet above sea level. Luxuriously furnished.
BATHS, BILLIARDS, ETC.
Terms Moderate.
Physician—Dr. Lowther.
Apply Lady Manager,
Miss Lawford.

Climate especially suitable for Chest and Throat Affections.

Hydropathic House,

(THE OLDEST ESTABLISHMENT IN SOUTHPORT.)

Proprietors = = = LEE & HARDMAN.

Physician = = = DR. STOPFORD.

TERMS (VERY MODERATE) ON APPLICATION.

SCARBOROUGH HYDRO.

This Establishment is located in the best sheltered and healthiest position in the Queen of Watering Places.

The atmosphere is bracing and salubrious all the year round.

Turkish, Russian, Electric, and all other approved BATHS.

Massage, Billiards, Tennis, &c.

Medical Attendant: DR. MEGGINSON.

TERMS FROM 7/- PER DAY.

IRELAND.

ST. ANN'S HILL HYDROPATHIC ESTABLISHMENT,

BLARNEY, COUNTY CORK.

Resident Physician: M. ALTDORFER, M.D.

ESTABLISHED 1843.

CELEBRATED HEALTH RESORT, picturesquely situated on rising ground (sandy soil), and commanding a view of the far-famed Groves and Castle of Blarney. The Woods and Grounds attached comprise over 600 acres, whilst there are several miles of wooded and sheltered walks in the neighbourhood.

All forms of Hydro and Electro-Therapeutic Applications; Massage and Medical Gymnastics. Turkish, Pine, Brine, Electric and other Baths.

Winters remarkably mild and even; House comfortably heated; Drawing, Reading and Billiard Rooms; Tennis.

ELECTRIC LIGHT THROUGHOUT ENTIRE ESTABLISHMENT.

Terms 2 Guineas to 3 Guineas per week. 10 per cent. discount allowed to Medical Men and their Families.

Prospectus from the Secretary, St. Ann's Hill, County Cork.

WORKS BY SAMUEL HYDE, M.D.

Second Edition, Crown 8vo, 2s. 6d.

BUXTON: ITS BATHS & CLIMATE.

Together with Special Chapters on Baths, Bathing, and Massage.

Second Edition, Revised and Enlarged, price 1s. 6d.

THE NURSE'S GUIDE TO MASSAGE.

Being an Introduction to the Principles and Practice of Modern Massage, designed for the use of Masseurs, Masseuses, Bath Attendants, and Sick Nurses.

LONDON: { JOHN HEYWOOD, 1, Paternoster Buildings; SIMPKIN, MARSHALL & Co., Paternoster Row, and HENRY KIMPTON, Holborn.

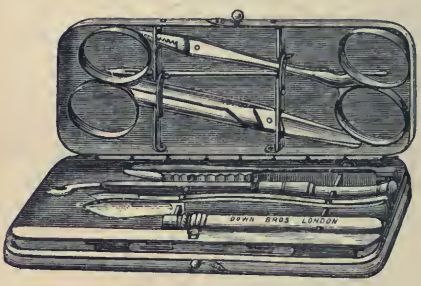
DOWN BROS.'

ASEPTIC

POCKET DRESSING INSTRUMENTS

AND CASES.

DR. LEESON'S ASEPTIC POCKET-CASE.



Price complete, £3 12s. 6d.

ADVANTAGES.—A compact case designed to carry all that is necessary in the ordinary emergencies of practice.

Everything is arranged to promote the strictest asepsis. All the instruments take apart, so that they may be thoroughly cleansed.

Consisting of Paget's Knife and Scalpel in solid forged steel handles, Dressing Scissors, Spring Forceps and Spencer Well's Artery Forceps, all with take-off joints, Lupus Scraper and Director, Exploring Trocar in Metal Case, Silver Caustic Case with Palladium Quill, Silver Probe, Needles & Silk, the blunt instruments nickel-plated, fitted in neat Metal Pocket Case.

COMPLETE ASEPTIC
POCKET-CASE.

(*Fig.* 1706A.)

Containing Finger Knife, Curved Sharp and Blunt Bistouries, Paget's and Syme's Knives and Scalpel, all forged entirely out of solid steel and with nickel-plated handles, Dressing Scissors, Spencer Well's Artery Forceps and Spring Forceps, all made to take apart at the joints, Exploring Trocar in Metal Case, Double Scoop for Lupus, &c., Silver Caustic Case with Palladium Quill, Aneurism Needle and Director, Silver Probe, Silk and Wire fitted on Metal Tablet, and Needles, fitted in neat Metal Case.

Price complete, £4 11s. 6d.

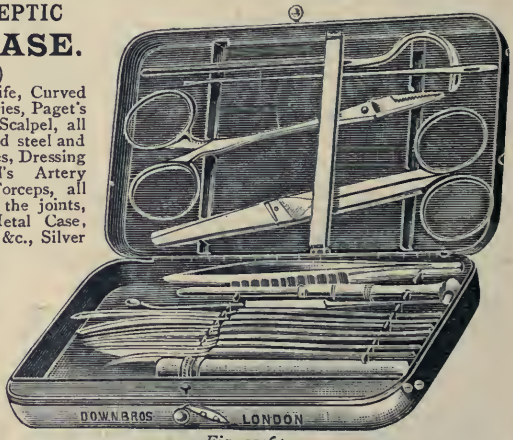


Fig. 1706A.

Complete Illustrated Catalogue on application.

DOWN BROS., Surgical Instrument Manufacturers,
5 & 7, St. Thomas's Street, Borough, LONDON, S.E.

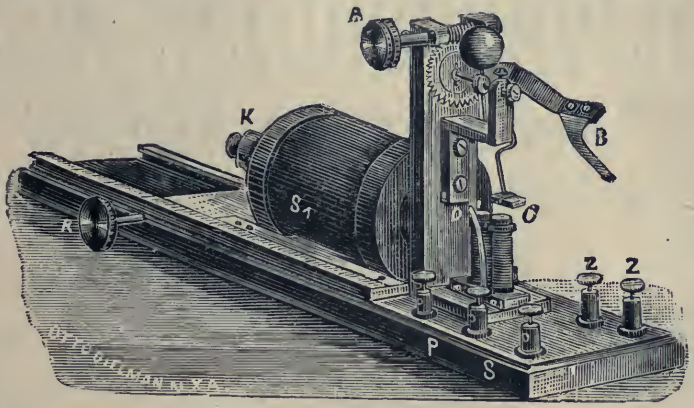
Telegraphic Address: "DOWN, LONDON." *(OPPOSITE GUY'S HOSPITAL.)*

FACTORY: KING'S HEAD YARD, BOROUGH.

A. HURST & CO.,

PORTABLE ACCUMULATORS OF HIGH CAPACITY FOR LIGHTING & CAUTERY.

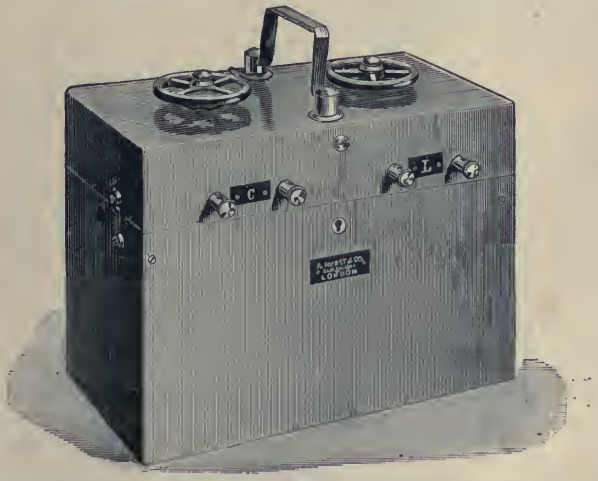
CONTINUOUS CURRENT BATTERIES FITTED WITH DRY CELLS.



HIGH CLASS ELECTRO MEDICAL APPARATUS

Of every description.

CATALOGUES ON APPLICATION.



6, Fowkes Buildings, Great Tower Street, LONDON, E.C.

THE

LIVERPOOL LINT Co.

MARK STREET MILLS,

NETHERFIELD ROAD NORTH,

LIVERPOOL,

MANUFACTURERS OF

LINTS,

COTTON WOOLS,

BANDAGES,

SURGEONS' TOW,

CARBOLIZED TOW,

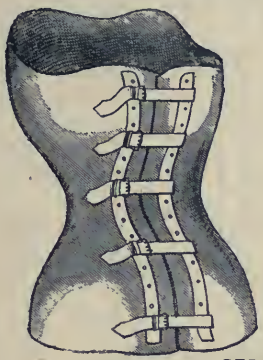
SPLINT PADDING,

PROTECTIVE LINT.

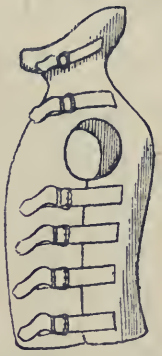
TISSUED AND ABSORBENT WOOLS.

SPONGIOLINE, ETC.

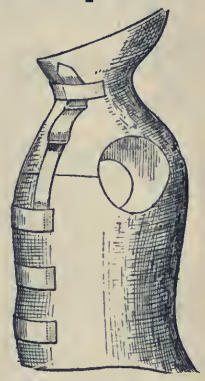
COCKING'S PATENT
Poro-Plastic Jackets & Splints.



JACKET.



CERVICAL JACKET, No. 1.
Designed by
W. J. WALSHAM, F.R.C.S.



CERVICAL JACKET, No. 2.

INSTRUCTIONS FOR MEASUREMENT, &c.

JACKET. *(In cases of Slight Deformity)* :—

Circumference at axilla
,, waist.
,, hips.
Length from axilla to great trochanter.

In severe angular cases, circumference over apex of curve, position of same, and contour should be given; in lateral cases a description of the case.

In all cases it must be stated if for male or female.

CERVICAL JACKETS.

Same measurements and circumference at neck, and length from centre of neck to axilla.

Any part of the Jacket can in the process of Manufacture be left soft.

LEG SPLINT.
FOR ALL DISEASES OF THE KNEE, OR FRACTURE.

Made with soft front or with hinge at back, and foot part if required.

LEG SPLINT.

Circumference at top of thigh.	Circumference below knee.
,, above knee.	,, at calf.
,, at knee.	,, at ankle.

Length of splint as required.

State if for right or left leg.

When the foot part is required, also circumference at heel and instep, and length from centre of knee to ground.
If the limb is contracted the contour should be given.

Jackets, Splints and Poro-Plastic in Sheets may be had of our Agents.

Sole Manufacturer: **J. T. COCKING, PLYMOUTH.**

Address for Telegrams—Optician, London.

CURRY & PAXTON

OPHTHALMIC OPTICIANS,

195, GREAT PORTLAND ST., LONDON, W.

Branches—LIVERPOOL, 8, Hardman Street; BRISTOL, 61, Park Street.

MANUFACTURERS OF

Every Optical Instrument required by the Ophthalmic Surgeon,

HAVE THE HONOUR TO ANNOUNCE THAT THEY RECEIVED

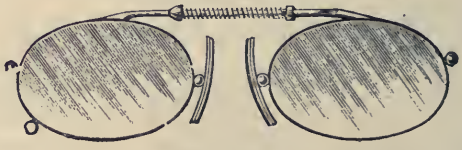
THE ONLY FIRST-CLASS AWARD FOR ENGLISH

Optical Instruments

AT THE

INTERNATIONAL MEDICAL AND SANITARY EXHIBITION, 1881.

Inventors and Patentees



OF THE ONLY

PINCE-NEZ SUITABLE FOR ASTIGMATISM.

Patent No. 8953, July, 1885.

CURRY & PAXTON are the ONLY Opticians who devote themselves ENTIRELY to the Medical Profession.

Provincial and Colonial Ophthalmic Surgeons are respectfully requested to communicate with CURRY & PAXTON, *and ascertain the method they have adopted, enabling Medical Practitioners to suit Patients as cheaply and accurately as if in the immediate neighbourhood.*

ILLUSTRATED CATALOGUE POST FREE ON APPLICATION.

Telegraphic Address—"TENOTOME, LONDON."

C. WRIGHT & CO.,

(From Louis Blaise & Co., late Savigny & Co.),

MANUFACTURERS OF

SURGICAL INSTRUMENTS,

APPLIANCES,

TRUSSES AND BANDAGES of every Description,

ORTHOPŒDIC INSTRUMENTS,

SURGICAL SOLES FOR TALIPES,

PORO-PLASTIC JACKETS AND SPLINTS,

By Appointment to Her Majesty's Government and the principal London and Provincial Hospitals and Infirmaries.

— Truss Makers to the Rupture Society. —

108, NEW BOND STREET, LONDON.

For preventing all Offensive Odours from Wounds, Sores, &c., use

CALVERT'S CARBOLIZED TOW.

Extract from *British Medical Journal*:—"The Carbolized Tow we can recommend in decided and unqualified terms to the use of Surgeons. It is a fine, long-fibred, clean tow, impregnated with definite quantities of Carbolic Acid. Soft as a dressing, antiseptic, and deodorizing, it may with advantage be used for most of the surgical purposes to which lint and sponges and cotton wool are now applied. In hospital and dispensary wards we recommend its trial."

In ½ and 1lb. Boxes, 1/- & 1/6 each. Bulk Lots at Special Rates.

SMOKERS SHOULD USE

CALVERT'S DENTO-PHENOLENE.

1/6, 2/6, and 1lb. 7/6 Bottles.

A FRAGRANT LIQUID DENTIFRICE.

A DELICIOUS MOUTH WASH.

A few drops in a wineglass of water makes a delicious wash, which smokers and others will find most effectual for sweetening the breath, and leaving a pleasant taste and refreshing coolness in the mouth.

F. C. CALVERT & CO., MANCHESTER.

Awarded 60 Gold and Silver Medals and Diplomas.

Depot for Pure Inhalation Oxygen, 6d. per foot.

FIG. 1.

FIG. 2.

FIG. 3.

PRESTON'S 'ONE CELL' INHALER

(PROTECTED).

FOR CHLORIDE OF AMMONIUM OR OTHER VAPOUR INHALATIONS. PRICE 3/-

The simplest, most compact & effectual Inhaler extant. Gives a perfectly neutral vapour.

May be used for the Inhalation of Chloride of Ammonium, or for any Volatile Medicament, simple or combined.

The medicated vapour is produced by the passage of air through the straight tube in Fig. 3, passing over a medicament loosely held on a FINE GLASS INCORRODIBLE WOOL, placed in the cap or funnel. This single medicated vapour then passes over the surface of the second medicament, contained at the bottom of the vessel Fig. 2, and, combined or united, is then inhaled through the bent tube as Fig. 1, UNIMPAIRED or WEAKENED.

TESTIMONIALS.

The *Lancet*, May 30th, 1891, says—"The apparatus is simple, safe and effectual, gives a *neutral* vapour, and can be used for any volatile medicament."

The *Provincial Medical Journal*, May 1st, 1891, says—"Will be found serviceable wherein Chloride of Ammonium is indicated . . . Is also cheap in price."

The *Nursing Record*, September 13th, 1891, says—"Subjecting it to a searching test, we find that it gives a perfectly neutral vapour . . . The very thing that has been for a long time wanted, namely, a cheap, safe, reliable, and effective inhaler."

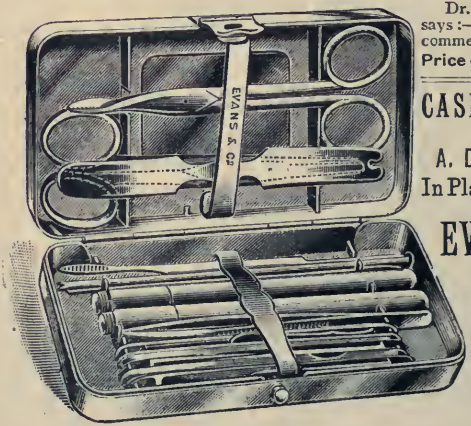
The *British and Colonial Druggist*, June 26th, 1891, says—"This compact little Inhaler has the advantages of simplicity, compactness, and *wide range* of application. Not only can it be used for Chloride of Ammonium, but also for any other volatile inhalation."

MANUFACTURED BY

J. PRESTON, Manufacturing & Wholesale Chemist, 4, High St., Sheffield.

ASEPTIC POCKET INSTRUMENTS.

PORTABLE NEEDLE, SILK, AND WIRE CASE.



Dr. Edmund K. Houchin, London, says:—"I have much pleasure in recommending it to my colleagues."

Price complete, 2/6. Postage extra

CASE OF INSTRUMENTS

AS SUGGESTED BY

A. DIXON JOLLYE, M.R.C.S.

In Plated Metal Case, Price 40s

EVANS & WORMULL

31, STAMFORD ST., LONDON, S.E.

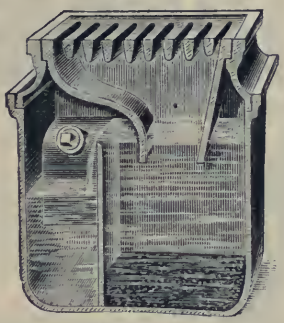
Instrument Makers to the Army, Navy, and Indian Government, and various Hospitals.

Price Lists and Particulars of every kind of Appliances sent on application.

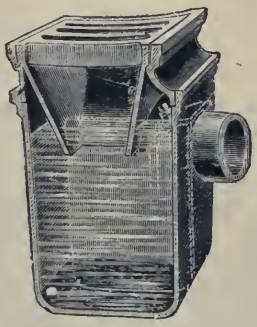
SURFACE WATER GULLIES.

For Roads, Streets, Yards, Houses, &c.

CROSTA'S PATENT.



FRONT ELEVATION SECTION.



END ELEVATION SECTION.

ADVANTAGES.

Self contained.
No labour in fixing.
Small area exposed to atmosphere.
Complete double trap whereby, even when body of gully is empty, noxious gases from drains are effectually sealed.
Second trap completely protected from being silted up.
Second chamber flushed by means of cascade motion.
Easy access to drains by means of removable plug.
No syphon pipe required outside gully.
Connections with drains can be cleared of obstructions by flushing through plug hole.
Frame and grate can be renewed without disturbing body of gully

SUPPLIED TO CORPORATIONS IN ALL PARTS OF THE KINGDOM.

The most effective Preventive against Cholera and all kinds of Fever,
See DR. PRIESTLEY'S article, page 590, "Medical Annual."

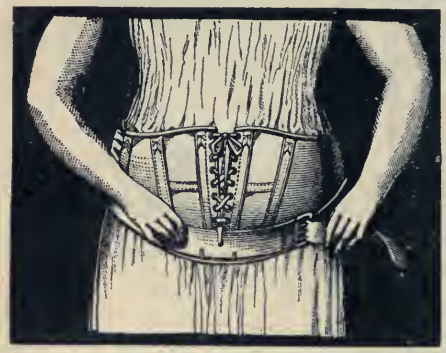
Prices, Illustrated Lists, and full particulars from

THE PATENT GULLY COMPANY, LIMITED,
ST. PETER'S CHURCH WALK,
NOTTINGHAM.

"DOMEN"

SUPPORT *WITHOUT* PRESSURE.

BELTS



UMBILICAL HERNIA.

PREGNANCY.

ACCOUCHEMENT.

CORPULENCY.

FLOATING KIDNEY.

A SPECIALLY DESIGNED BELT FOR EACH COMPLAINT.

IMPORTANT SPECIALTY—

DOMEN BELT-CORSET.

A GOOD FIGURE WITHOUT TIGHT LACING.

An Actual Combination of Belt and Corset.

DOMEN "STOOP-CURE."

FOR ROUND SHOULDERS AND WEAK BACKS.

FOR ILLUSTRATED CATALOGUE APPLY TO

"DOMEN" BELTS CO.

456, West Strand, W.C. & 30, Sloane Street, S.W.,

(*Fitting Rooms and Female Attendants*).

WHOLESALE AND SHIPPING: 61, MOOR LANE, LONDON.

— SPECIAL TERMS TO THE PROFESSION. —

THE

"LAWSON TAIT" BEDS.

DOMINION WIRE MATTRESSES,

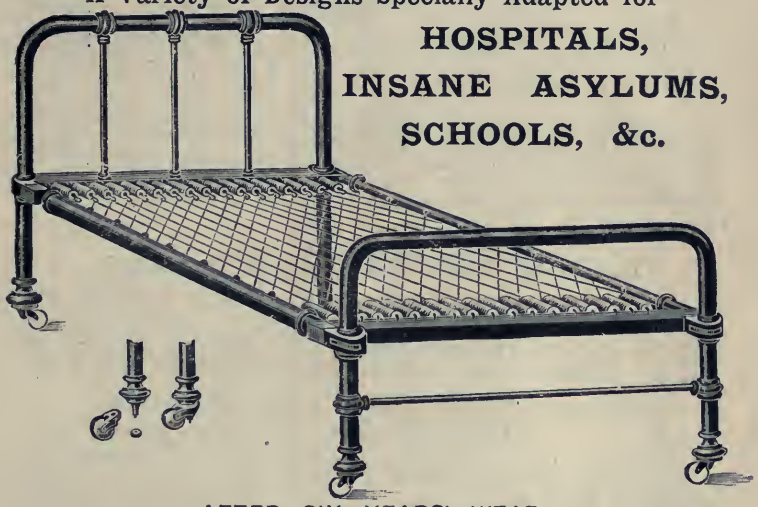
As supplied to the Royal Palaces at Windsor and Osborne, British and Colonial Governments, and leading Institutions.

A Variety of Designs Specially Adapted for

HOSPITALS,

INSANE ASYLUMS,

SCHOOLS, &c.



AFTER SIX YEARS' WEAR.

7, THE CRESCENT, BIRMINGHAM, *June 25th*, 1888.

Dear Sirs,—The Bedsteads you constructed for me with "Dominion Wire Spring Mattresses" are by far the very best I have ever seen for Hospital use. They have been *in use for over* six years, *and have not given way in the least: the Springs have never broken, nor do they get rusted. They are in every way satisfactory.*—Yours truly, LAWSON TAIT, F.R.C.S.

Guarantee given to all Institutions binding us to replace, free of expense, in case of failure of any part within 15 years.

Illustrated Catalogue, with a list of Institutions supplied, with testimonials received, sent gratis on application.

GEO. GALE & SONS, Upper Mill Hill, LEEDS,

Also London, Paris, and Waterville, P.Q. Canada.

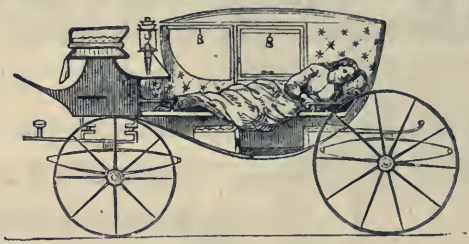
Telegraphic Address:—"DOMINION, LEEDS."

READING'S IMPROVED INVALIDS' COT CARRIAGES.

FOR THE REMOVAL OF INVALIDS.

With Removable Couch and Seats for Two or Four Persons.

BY ROAD



OR RAIL.

These Carriages are so constructed as to render Travelling easy and agreeable to the most confirmed Invalid, being fitted with noiseless Wheels and every appliance for ease and comfort, and let on moderate terms for any journey.

Also a good assortment of new and second-hand Broughams and other Carriages for sale or hire.

H. & J. READING, Coachbuilders,

15, Riding House Street, Langham Place, London, W.

THE MOST EFFECTUAL BANDAGE FOR THE CURE OF ULCERS

AND OTHER DISEASES OF THE LEG.

Statham's Porous or Solid Rubber Bandages, with Tapes or Buttons, in Grey or Black, made from the finest Para Rubber.

PRICES, POST FREE.

Feet.		Inch.		Each.	Feet.		Inch.		Each.
5	by	2½	wide	2/-	5	by	3	wide	2/3
7½	by	2½	,, ...	3/-	7½	by	3	,, ...	3/6
10½	by	2½	,, ...	4/-	10½	by	3	,, . ..	4/6
15	by	2½	,, .. .	6/-	15	by	3	,, ...	6/9
21	by	2½	,, ...	8/-	21	by	3	,, ...	9/-

Small WRIST BANDAGE, 3 ft. by 1½ inch wide, each 1/-.

Air and Water Beds and Cushions, Bed Sheets, Urinals, Ice Caps, Hot Water Pillows. *List post free.*

H. STATHAM & CO. (CORPORATION STREET), MANCHESTER.

Revolution in Iron Administration.

A HIGHLY PALATABLE PREPARATION OF IRON CHLORIDE.

The Tincture of Chloride of Iron has long been recognised as the most efficient of iron preparations; the objections to its continued administration, its highly astringent taste, its corrosive action on the teeth, and constipating action have, however, been hitherto insurmountable.

We have succeeded in preparing an entirely palatable syrup of officinal Tincture Iron Chloride, combining all its virtues with none of its drawbacks. It is prepared after the formula of Dr. G. W. WELD, and is entitled :—

'Weld's Syrup of Iron Chloride'

(P., D. & CO.'S).

We earnestly recommend its trial to all the profession, believing it to be the most acceptable preparation of Iron ever devised.

Free Samples will be sent, on receipt of request, to Physicians.

THE VALUE OF

LIQUOR SEDANS

IN THE TREATMENT OF

DISEASES of the FEMALE REPRODUCTIVE SYSTEM.

On November 29th, 1890, R. W. W——, A.M., M.D., Professor of Clinical Medicine in the New York Post-Graduate Medical School and Hospital, and Physician to Demilt Dispensary, read an article before the Clinical Society of that Institution, entitled, "Hydrastis, Viburnum and Piscidia in Diseases of the Female Organs of Generation, which was published in the *New York Medical Journal* for December 13th, 1890. From this article the following excerpts are taken :—

"For the last year I have been experimenting with a preparation known as LIQUOR SEDANS, manufactured by PARKE, DAVIS AND Co., which has the following formula: Hydrastis, 60 grains (represented by the white alkaloid); viburnum, 60 grains; piscidia, 30 grains, to each fluid ounce of the preparation. The drugs are combined with aromatics so that the mixture is not unpalatable, and presumably these additions have some therapeutic effect. The cases in which I made use of this formula have been those in which an operation was not possible, either because the patient's consent could not be obtained or the patient could not be kept under control. Nor have I inserted cases in which local treatment was the most important feature. While all these cases were under observation and reported from time to time, yet none of them had regular local treatment because for various reasons it was not possible."

After giving in detail clinical reports of cases in which he had used the preparation successfully, Dr. W—— concludes :—

"In the recording of these cases I have endeavoured to give a faithful picture and an accurate report of the results. From these we may say that in all cases of hyperæmia of the female reproductive system we have in LIQUOR SEDANS a safe and reasonably sure remedy. In many spasmodic diseases and in a few cases of anæmia of these organs we find the remedy also indicated. It certainly has a wider field of usefulness than any single drug, and if used after a careful diagnosis is established, and after thorough appreciation of the pathological conditions that exist, we can anticipate a successful issue so far as improvement is possible from purely medical methods."

A reprint of this article in full will be mailed to any physician upon application to

PARKE, DAVIS & CO.,

451, OXFORD ST. & 21, NORTH AUDLEY ST., GROSVENOR SQUARE, } LONDON.

TO THE MEDICAL PROFESSION.

500 SEALSKIN JACKETS from £8;
GENTLEMEN'S Fur-Lined COATS, £5 to £10.

SAVE 50 PER CENT. BY GOING TO

Phillips & Co.

52 & 53, NEWGATE STREET, CITY.

Everything One Half West End Prices.

DINING ROOM SKIN RUGS, Half Price.
500 FUR CARRIAGE RUGS, 25s.

SEALSKIN JACKETS RE-DYED AND ALTERED TO PRESENT FASHION.

CAUTION.—"The Only Address." Other people are trading upon our Name.

PHILLIPS & Co., 52 & 53, Newgate St., City.

COVERINGS FOR BALD HEADS

CLARKSON'S NATURAL HEADS OF HAIR,
for Ladies or Gentlemen, made on Invisible Hair Net Foundations of the most delicate nature, so as to defy detection even upon the closest inspection.

FROM 1 TO 8 GUINEAS.
ALL MADE IN MOST ELEGANT STYLES AND LATEST FASHIONS.

CURLS, PLAITS, TWISTS, SWITCHES, FRONTS, FRINGES.

Recommended by all Doctors. *See Notice in Medical Directory.*

SEND FOR FULL PARTICULARS.

W. CLARKSON,

By Special Appointment to Her Majesty,

45, WELLINGTON STREET, STRAND, LONDON.

ANTISEPTIC PASTILLES,

(DR. CARL SEILER'S FORMULA.)

"These Pastilles, sold by Messrs. F. Newbery and Sons, King Edward Street, are hard, white Pellets, which are intended to be dissolved in water, and thus form an antiseptic solution to be used as a nasal application to be sniffed up the nose, or as a spray; also as a mouth wash. They weigh fifteen grains, and are composed of sodium bicarbonate and borax, with small quantities of benzoate and salicylate of sodium, thymol, menthol, and oil of gaultheria. They readily dissolve in water, when crushed, forming a very alkaline solution, which proves to be highly antiseptic. They will be found to be very convenient for patients who have to use antiseptic solutions frequently, as they do away with the necessity of having large quantities of solutions on hand."—*Extract from the British Medical Journal, January 4th, 1890.*

ANTISEPTIC PASTILLES,

BY W. R. WARNER & CO.,

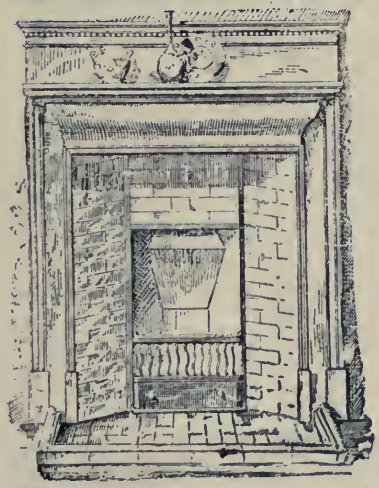
PER BOTTLE **1/6.**

Write for New Complete Price List of PILLS, GRANULES, and PARVULES, &c., at Reduced Quotations by W. R. Warner & Co., giving upwards of 250 Excellent Formulæ.

Depot: F. NEWBERY & SONS,

1, & 3, KING EDWARD ST., NEWGATE ST., LONDON, E.C.

Supplied by ALL FIRST-CLASS CHEMISTS.



HARRY HUNT & Co.

12, NEW OXFORD STREET,

LONDON, W.C.,

PATENTEES AND MAKERS OF IMPROVED ECONOMISER

Art Fireplaces.

ENTRANCE HALL STOVES
that burn continuously and give even temperature throughout the house.

KITCHENERS
with Lifting Grate, Open & Close Fire, Bottom Heat to Ovens, and all the latest improvements.

PRICE LISTS Post Free on application.

HUNT'S New Rumford Teale ART FIREPLACE.

12, NEW OXFORD STREET, W.C.

SOLUBLE PEARL COATED PILLS

CAPSULES
TABLETS
TINCTURES
INFUSIONS

GLYCERINE SUPPOSITORIES
NUTRITIVE SUPPOSITORIES
CONCENTRATED MIXTURES

JOHN
RICHARDSON & CO.
LEICESTER, LIMITED.
Established 1793. Incorporated 1891.

MEDICAL SPECIALITIES
EFFERVESCENT PREPARATIONS
ANTISEPTIC DRESSINGS

LOZENGES
EXTRACTS
GRANULES

Samples and Lists Free to the Profession.

ELEVEN GOLD MEDALS AWARDED

A SPECIFIC REMEDY FOR DYSPEPSIA.

SELLERS' MISTURA BISMUTHI COMP.

(REGISTERED)

Also SELLERS' MIST. BISMUTHI Co. c. PEPSIN.

THE ORIGINAL AND ONLY GENUINE PREPARATIONS,

Are perfectly miscible with water without Precipitation. The exact Formula is given with each Bottle.—Dose : m. xv. to 3 ss.

These preparations have secured, by their efficacy, a reputation far exceeding any other remedy for the successful treatment of Atonic Dyspepsia, Pain after Food, Chronic Gastric Catarrh, Pyrosis, Gastric Irritation with Sickness, especially that in the early stages of pregnancy; and are extremely useful in those troublesome and difficult cases arising from sedentary habits, irregularity of living, or excesses of any kind so frequently met with in medical practice.

They are admitted to be the most convenient and reliable preparations of Bismuth ever introduced, and are prescribed by the leading physicians throughout Great Britain with almost unfailing success. In many nervous affections, where there is general depression, lack of energy, loss of appetite, or inability to assimilate the food, they are of great therapeutic value.

NOTE.—Great annoyance and disappointment being often caused by spurious and worthless imitations of the above Preparations being supplied, it is especially requested that all orders, whether in prescriptions or otherwise, state distinctly—

"SELLERS' MIST. BISMUTHI COMP." &c.

Supplied in ¼-lb. ½-lb. 1-lb. 2-lb. & 5-lb. Bottles (for Dispensing only), at 10s. per lb.

ORIGINATOR AND SOLE MAKER—

JOHN SELLERS, Manufacturing Chemist,

57, FARRINGDON ROAD, LONDON, E.C.

Wholesale Agents—FERRIS & Co., BRISTOL.

THYROID EXTRACT

(FOR MYXŒDEMA.)

A Glycerine Extract of fresh Thyroid Glands, uniform in strength. Prepared from healthy glands, selected under veterinary supervision. A permanent preparation not liable to decomposition. Well suited for internal administration. A certain remedy for the hitherto inevitably fatal Myxœdema. Useful in Goitre, Cretinism, &c. Found very successful in the treatment of Psoriasis (see BRIT. MED. JOURNAL, Oct. 28th, 1893, page 933). Exerts a wonderful effect on the nutrition of the skin, and hence deserves wide trial in skin diseases. Promotes the growth of the hair and may prove of use in baldness of some kinds.

Price 3s., in 1-oz. stoppered bottles. *Dose*—m x. *to* 3j.

THYROIDINE, containing active principle of the Thyroid Glands of the sheep, 4 grains equal to about one-eighth of a fresh gland. Also PILLS and TABLETS, each containing a dose of Thyroidine.

In bottles, 2s. 6d. each.

WILLOWS, FRANCIS, & BUTLER,

WHOLESALE & MANUFACTURING

Chemists and Export Druggists.

101, HIGH HOLBORN, LONDON.

ESTABLISHED 1751.

KING, MENDHAM & CO.,

ELECTRICAL ENGINEERS,

AND

MANUFACTURING ELECTRICIANS.

GALVANIC AND FARADIC MEDICAL BATTERIES

AND APPLIANCES OF EVERY DESCRIPTION.

Special Form **SULPHATE OF MERCURY GALVANIC BATTERY,** in Polished Mahogany Case, fitted with screw arrangement for raising and lowering Cells, with Collector, and Sponge-holders, 20 Cells, **£4 4s.**; 30 Cells, **£5 5s.**

IMPROVED PORTABLE FARADIC BATTERY, fitted with two specially designed Cells, giving strong current for working coil, Tube Regulator, and two Carbon and two other Electrodes, *(see illustration.)* **£4 4s.**

DUBOIS-REYMOND'S SLEDGE COIL, on mahogany base, fitted with simple contact breaker and engraved scale. **£2 2s.**; larger—**£4 10s.**

WIMSHURST ELECTRICAL MACHINES, giving positive and negative currents, complete with Leyden Jars, Insulating Stool, and Connecting Rods and Rheophores. **£8 8s.**

PRIMARY and SECONDARY BATTERIES for Surgical Electric Lamps, Cauterising, etc., with necessary Appliances.

ELECTRIC BATH ROOMS FITTED WITH BATTERIES, COILS, AND ALL NECESSARY APPLIANCES.

ELECTRIC LIGHT, ELECTRIC BELLS, THIEF AND FIRE ALARMS, TELEPHONES, SPEAKING TUBES, ERECTED & MAINTAINED IN WORKING ORDER.

WESTERN ELECTRICAL WORKS,

Narrow Wine St. and Fairfax St., BRISTOL.

LONDON OFFICE—12, FENCHURCH STREET, E.C.,

[ESTABLISHED 1876.] W. B. ALLISON, *Sole Agent.*

New Price List, Roy. 8vo, 140 pages, 700 Illustrations, Post Free, 6d.

DIABETES.

BONTHRON'S DIABETIC BREAD & BISCUITS.

Dr. PAVY, in his recent work on "Diabetes," p. 245, says :—

"Mr. BONTHRON, of 106, Regent Street, has recently succeeded in producing some Gluten Biscuits and Bread which are more eatable than anything of the kind I have ever yet met with. The Biscuits present somewhat the character of a cracknel; they eat short and crisp, and are really reducible in the mouth; having no unpleasant taste; and, consumed with other food, possess the power of cleansing the palate. The Bread is moist, and will not keep good for more than about ten days. Its consumption therefore involves a frequent supply. It serves to increase the variety at the command of the Diabetic: and, independently of this, possesses the advantage of presenting an approach to the condition of ordinary bread."

"The LANCET" of June 9th, 1877, under the head of Analytical Records, says :—

"We have received from the above well-known maker no less than six different samples of biscuits, etc., intended for diabetic treatment. No. 1 is called the 'Diabetic Biscuit,' and contains much gluten and very little starch. No. 2 is the 'Regent Biscuit,' made from gluten and prepared bran. No. 3 is an 'Almond Biscuit,' and the rest are modifications of the first two. They are excellent preparations; and though, of course, they are not so palatable as if they contained the normal quantity of starch, they can be eaten without difficulty or repulsion. Indeed, it is not easy to see how they could be improved."

The Bread is made fresh every day, and, as has been already noticed, will keep good for a week; a supply can thus be forwarded to any part of the Kingdom. The Biscuits will keep good for almost any length of time, and on this account are well adapted for exportation.

In addition to the above, a large and excellent variety of Dessert Biscuits of a nutritive and appetising character can now be supplied.

The new COFFEE AND CRESSINI BISCUITS, now widely recommended by Medical Men, are very agreeable and pleasant.

These preparations have just lately been awarded the Silver Medal, highest award in class, in the Edinburgh Exhibition.

GLUTEN FLOUR, 2/6 per lb. BISCUITS, 3/6 per lb.
LOAVES, 9d. each. BRAN, 1s. per lb.
The LOAVES can be sent through the Post, 1s. each.

Both Bread and Biscuits have now been before the Medical Profession for over 25 years with the highest results, and with the greatest satisfaction to those requiring to use them, and whose testimony (after years of trial) of the great advantage they continue to derive from them, constitute their best recommendation.

As Gluten Preparations are costly, and will keep good any length of time, it is cheapest and best to communicate direct with the Maker,

JOHN BONTHRON, 106, Regent Street, London.

NOW READY and will be sent FREE on Application,

THE 1894 EDITION OF OUR

MEMORABILIA,

Neatly Bound in Leatherette, Gilt Edges, containing blank leaves for Daily Memoranda, Address Register, and Cash Account.

FORMING AN ELEGANT AND USEFUL POCKET BOOK AND DIARY.

PUBLISHED BY

FLETCHER, FLETCHER AND STEVENSON,

21, Mincing Lane, E.C., and Holloway, London, N.

DINNEFORD'S

FLESH-GLOVES, BELTS, RUBBERS, PADS,

ETC.

Highly Recommended for imparting a Natural Vigour to the Nervous System, for Strengthening Weak Limbs, and for the Prevention and Relief of Gout and Rheumatism without Risk of Injury to the most delicate Skin.

The attention of the Profession is invited to the above as *now* Manufactured by the Original Patentees,

DINNEFORD & CO., Pharmaceutical Chemists,

180, NEW BOND STREET, LONDON, W.

SIGH NO MORE LADIES!

IF YOUR HAIR IS THIN.

HAIR COMBINGS MADE UP. per oz. **2/-** | **IMMOVABLE SCALPETTES** from **21/-**

"A blessing upon bald 'womanity.'"—GENTLEWOMAN, May 2.

See recommendation in QUEEN, Nov. 19, 1892, page 845.

Tail of Pure Hair, 10/6 to 63/-. Grey Hair a Speciality.

T. S. BROWN, 3, LEECE ST., LIVERPOOL.

LAC BISMUTHI. LAC BISMUTHI ET CERII.

Syr. Hypophosph. Hydrobrom.

Miniature Throat Spray. Chlor. Ammon. Inhaler, &c.

SYMES & CO., LTD.,

Manufacturers of Pharmaceutical Preparations,

LIVERPOOL.

J. H. HAYWOOD, Castle Gate, Nottingham,

Stocking is from G to C, Knee Hose G to A, Thigh Hose G to H.

PATENTEE, INVENTOR AND MANUFACTURER OF
Surgical Elastic Stockings, Belts Suspensory Bandages, Trusses, Surgical Appliances, Caoutchouc Articles, Waterproof and Air-proof Goods, etc , etc.
Wholesale Dealer in Druggists' Sundries, Invalids' and Nursery Requisites.

SPECIALITÉS.—
Trusses for Ruptures of all kinds, equal to any supplied in London, Paris, or New York. Ladies' and Gentlemen's Supporting Belts and Bandages. Poro-Plastic Jackets and Steel Instruments for Curvature of the Spine moulded to the Patient as in London. Splints and Instruments for Deformed Feet and Legs. Chest Expanding Braces for Stooping Shoulders and Contracted Chests. Patent Elastic Surgical Stockings, without seams, for Varicose Veins, Sprains, etc. Magnetic Belts and Appliances for all parts of the body. India Rubber Appliances, Invalid Furniture, Bath Chairs, Carriages, Crutches, Ear Trumpets, Throat, Ear. and Nose Instruments, etc. Artificial Arms, Legs, etc. Strong cheap articles for working men.

J. E. COVENTRY,
CHIROPODIST AND MANICURE,

7, CLAYTON SQUARE, LIVERPOOL.

Hours:—DAILY, 1 to 6 p.m. SATURDAY, 10 a.m. to 1.30 p m.

RESIDENCE:
GRANGE MOUNT, CLAUGHTON, BIRKENHEAD.

At Home Professionally:

MONDAY, 8 to 12 a.m.	THURSDAY, 8 to 12 a.m.
TUESDAY, 7 to 9 p.m.	FRIDAY, 7 to 9 p.m.

SATURDAY, 2 to 8 p.m. *(Or by Appointment.)*

PATIENTS VISITED AT THEIR OWN RESIDENCES.

O. Bruster & Co.'s
PILSENER
LAGER BEER.

Brewed from PURE HOPS and MALT only, and acknowledged to be the best. Medical Gentlemen are invited to apply for Samples, which we send free of charge.

Bottling Agents in all Principal Towns.
To be obtained from most GROCERS, WINE MERCHANTS & STORES.

O. BRUSTER & Co., 143a, Holborn, London, E.C.

PURVEYORS to H.R.H. the PRINCE OF WALES.

Prof. CAMERON, *Superintendent Medical Officer of Health, and Vice-President of the Royal College of Surgeons, Ireland*, says:—"'Club Soda' neutralizes the lactic acid in the blood which gives rise to rheumatism and other affections. 'Club Soda' is an antidote to acid dyspepsia. 'Club Soda' promotes digestion. 'Club Soda' is the MOST WHOLESOME daily beverage that can be taken."

BENGER'S FOOD.

For Infants, Children, and Invalids.

GOLD MEDAL AWARDED—HEALTH EXHIBITION, LONDON.
HIGHEST AWARD—ADELAIDE, 1887, & MELBOURNE, 1888.

The *Lancet* describes it as "Mr. Benger's admirable preparation."

The *London Medical Record* says: "It is retained when all other foods are rejected. It is invaluable."

The *British Medical Journal* says: "Benger's Food has by its excellence established a reputation of its own."

The *Illustrated Medical News* says: "Infants do remarkably well on it. There is certainly a great future before it."

Benger's Food is sold in Tins at 1/6, 2/6, 5/-, & 10/-, by Chemists, &c., everywhere.

Wholesale of all Wholesale Houses.

ANALGEN (Dr. Vis.)

(ORTHO-AETHOXY-ANA-MONOBENZOYLAMIDO-QUINOLINE.)

For the Treatment of Neuralgia, Migraine, Gout, Rheumatic Pains, Sciatica, and the most varied descriptions of Pain in the Nerves.

FREE FROM UNPLEASANT SECONDARY OR AFTER EFFECTS.

ANALGEN may be advantageously prescribed in "MORSTADT" CACHETS, dispensed by most chemists.

Pamphlets, with full clinical reports, sent post free on application.

In 1 oz. PACKETS 3s. 6d. per oz. TABELLÆ (8 gr.) 4s. per oz.

THOMAS CHRISTY & CO., 25, Lime St., London, E.C.

PAPAÏN

(*DR. FINKLER & CO.*)

A purely Vegetable Ferment, which has a **PROMPT** and **CURATIVE** action on all forms of **DYSPEPSIA.** It is superior to the animal ferments Pepsin and Pancreatine, as it digests and peptonizes Albumen in Acid, Alkaline and Neutral media, and has a tonic and antiseptic action. (*See Pamphlets and Reports of Medical Press, etc.*)

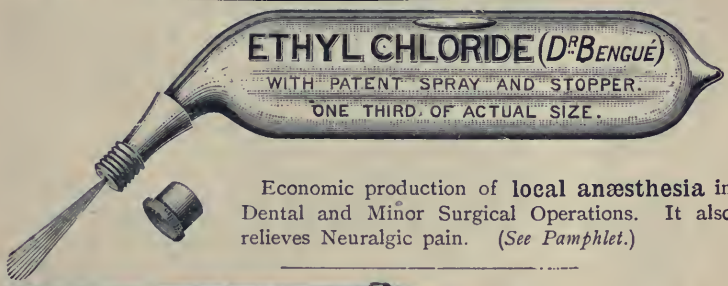
All packages of Papain (Dr. Finkler & Co.) are closed with the Trade Mark and Signature, and each package contains a copy of a short and convenient test. ACCEPT NO OTHER.

Dr. Finkler & Co.

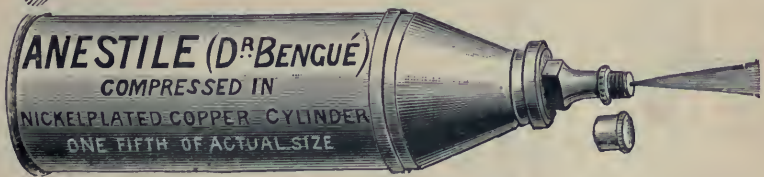
PAPAÏN (DR. FINKLER & CO.) *is sold in Powder, Pills, Tablets, Lozenges and Solutions, by all Wholesale and Retail Chemists, or where not obtainable, apply direct to*

B. KÜHN, 36, St. Mary-at-Hill, LONDON.

Samples, published Literature & Analysis sent free to the Medical Profession.



Economic production of **local anæsthesia** in Dental and Minor Surgical Operations. It also relieves Neuralgic pain. (*See Pamphlet.*)



An anæsthetic evaporating at a lower temperature than Ethyl Chloride, thus allowing of more extended surgical operations. (*See Circular.*)

Sold by all important Dental Depôts, Wholesale Druggists, &c., and where not obtainable apply direct to

B. KÜHN, 36, St. Mary-at-Hill, LONDON,

Sole Wholesale Depôt for the United Kingdom, the Colonies, and India.

Pamphlets sent to the Profession on application.

The Hamburg Hoff's Malt Extract

YIELDED THE FOLLOWING RESULTS IN CASES OF

TYPHOID FEVER - -
NON-RETENTION OF FOOD
PELVIC ABSCESS - -
POTT'S DISEASE - -
ANÆMIA - - - -
PULMONARY DISEASES -
AFTER SURGICAL OPERATIONS - - - -
MARASMUS - - - -

In low cases of **Typhoid Fever** and other **wasting diseases** there is **nothing** that can **compare** with it to **husband the strength** and **nourish the patient.** In cases where the patient **cannot retain the food** the Malt is invaluable, as **I have never seen a case that could not retain it.**

In a case of **Pelvic Abscess** following **childbed fever the patient lived on the Malt without other food for about 10 days,** and improved from the time she commenced taking it.—From M.D., etc.

"I have used Hoff's Malt in **three** cases of **Pott's Disease** in —— Hospital. **I find patients have done better than under any other treatment; gaining flesh, improving in appetite, etc.**—From M.D., etc.

I find it especially beneficial for **Anæmic Women with poor digestion.** It is the best Malt that has ever come into my hands.—From M.D., etc.

Hoff's Malt, in the **Pulmonary Department** of the —— Hospital, has given **great satisfaction** as a **nutrient tonic, it stimulates appetite** and **assists digestion,** thus rendering most useful **aid** in **combating consumption.** —From M.D., Medical Superintendent, etc.

In several cases **convalescing** from **difficult surgical operations,** where there has been an excessive loss of blood, the Malt **proved most satisfactory.**—From M.D., Professor of Surgery.

In one case of **severe attack of Marasmus** with **irritable stomach** I prescribed **Hoff's Malt,** and was **delighted** to see **my patient build up rapidly. I consider your preparation the best in the market.**—From M.D.

Apply for a Free Sample of the HAMBURG Hoff's Malt Extract to M. Hoff's London House, 29, New Bridge Street, LONDON, E.C.

TRADE MARK.

GEORGE BACK & COMPY.

G.B. DIABETES

WHISKY.

TELEGRAPHIC ADDRESS—
"DIABETES, LONDON."

THE "G.B." Diabetes Whisky

48/-
Per Dozen.
Carriage Paid and inclusive.

"The results of our analyses enable us to state that it is a Whisky of good quality, and that it is free from sugar. The Whisky is very light in colour, does not possess any strong flavour, and the total extractive matter is very low."—*British Medical Journal*, March 28th, 1891, p. 706.

"This Whisky is almost absolutely free from extractive matter. It yielded to our analysis only 0·0275 per cent. of solid extract, and 0.005 of ash. The alcohol amounted to 44·65 per cent. in weight, equal to 91·60 of proof spirit. It has scarcely any colour and certainly deserves its name."—*Lancet*, October 5th, 1889, p. 701.

SOLE PROPRIETORS—

GEORGE BACK & CO.,
Devonshire Square, Bishopsgate, LONDON.

COD LIVER OIL

PETER MÖLLER'S

(BY PATENTED PROCESS.)

Remarkable Researches and Results in Connection with the Manufacture of Cod Liver Oil.

EFFECTS.

Dr. Ollivier, speaking at a meeting of the Academy of Medicine (Paris), insisted emphatically upon the efficacy of Cod Liver Oil, and stated that he had practical proofs of its results on patients of every age. . . It is a powerful tonic, which ensures safety from the effects of damp, cold weather, guaranteeing people from falling easy victims to *la grippe*.

OLD SYSTEM.

Peter Möller still holds first rank among the manufacturers. In the years 1851-1853 considerable attention was called to Cod Liver Oil; but its use was restricted in consequence of the method of its production; which gave a turbid, brownish, uncanny preparation, nauseous to the palate, and sometimes impossible of digestion.

PERSONAL SUPERVISION.

Since then, the introduction by Peter Möller of a new application of steam, conducted under his own personal supervision, has secured the utmost cleanliness in every detail of the manufacture: and Patients and others have been able to obtain a pure, sweet, reliable Oil, when they *insisted* upon having Möller's—well, if they did not insist that was not Möller's fault.

INVESTIGATIONS.

With the name of Möller must always be associated progress, and in forty years many improvements were made. All the so-called substitutes were carefully examined and analysed, emulsions and mixtures, tinctures and essences, the bases of which were everything nearly—*except* Cod Liver Oil; and in the majority of cases no more expensive article than water (Aqua Pura).

"THE ACTIVE PRINCIPLE."

With these investigations it became more and more evident to Dr. Möller (who continued the researches of his father) that the "Active principle of Cod Liver Oil is the Oil itself," and not, as some have supposed, in the "remaining five per cent." after the separation of the ninety-five per cent. of fat and fat-acids (so-called). He was also impressed with the fact that, excellent as his Oil was, there was more to be accomplished before perfection could be claimed; in fact, no Oil had yet been made which presented the extremely delicate and pleasant flavour of the Oil as it is found in the *freshly boiled livers*.

A NEW OIL.

A new and important laboratory extension was therefore added, with every modern appliance for chemical investigation, and the labours and exhaustive experiments of some ten years being prosecuted with renewed vigour, finally obtained their reward, the practical outcome being an entirely new Cod Liver Oil, lighter in colour, more fluid, more limpid, wholly free from the taste, the "after taste," and the odour of even the best kinds of oil usually sold. The laboratory work has established the fact that the unpleasantness of "repeating" and "after taste" is due to unscientific treatment in the manufacture, by which the formation of Hydroxyles is permitted; by the Patented Process no such contamination is possible, and this oil is therefore SUITED TO THE MOST DELICATE STOMACH.

BY PATENTED PROCESS.

Dr. Möller has obtained Letters Patent for his process of manufacture in England, America, Norway, and other Countries; and although considerable outlay has been incurred in patenting the process, the selling prices have not been advanced.

The Oil is in every respectable chemist's. All bottles are capsuled, and bear the Trade Mark and perforated date as formerly. In case of difficulty or dissatisfaction write to Peter Möller, 43, Snow Hill, London, E.C.

ARMBRECHT'S

COCA PREPARATIONS.

The Original.
The Favourite.
The Reliable.
The Inimitable.

LIBERAL DISCOUNT TO PROFESSION.

LOZENGES,
1/6, 2/6, 5/- a tin.

EXTRACT,
3/6, 5/6 a bottle.

WINE,
4/- a bottle, or
45/- per doz.,
CARRIAGE PAID.

KOLA PREPARATIONS.

AS WINE,
4/- a bottle, 45/- a doz.

AS EXTRACT,
3/6, 5/6 a bottle.

AS LOZENGES,
1/6, 2/6, 5/- a tin.

The latter are also made in combination with Coca and Extract of Meat.
LIBERAL DISCOUNT TO PROFESSION.

ARMBRECHT, NELSON & CO.,
Duke Street, Grosvenor Square, LONDON, W.

HORLICK'S

Malted Milk

Requires No Cooking.
No Added Milk.

A PERFECT FOOD.

Instantly Prepared by Dissolving in Water.

The most easily digested and most nutritious of foods, made from the purest fresh Cows' Milk, combined with Wheat and Barley Malt.

NO STARCH. GUARANTEED ABSOLUTELY PURE.

Makes { FLESH. BONE. BRAIN.

For { INFANTS. INVALIDS. CONVALESCENTS.

Sample, free, on application—

39, SNOW HILL, E.C.

BLAKE, SANDFORD & BLAKE

Invite special attention to their

Guaiacate of Lithium For the Treatment of GOUT & RHEUMATISM.

The value of this **soluble** combination of **Guaiacum** with **Lithium** has been conclusively proved. It is best administered in Doses of 5 grains (in Pill) 2 or 3 times daily.

Lithia, Potash & Soda Waters,

All of full Pharmacopœial **Strength** and **Purity.** Also

Mineral Acid Water, A delicious and wholesome sparkling beverage (containing Nitro-hydrochloric Acid) especially grateful to **Convalescents.** It is prescribed with marked benefit in PHTHISIS, and in the Treatment of Sluggish Liver and Indigestion.

Price Lists and Particulars sent, on application to the original Makers—

BLAKE, SANDFORD & BLAKE,

47, PICCADILLY, LONDON.

6D and larger tins

The Lancet says A Strong and pure Cocoa

Rowntree's 'Elect' Cocoa

"A veritable Treat."

Dr Hassall says of excellent quality and Unusual Strength

Works YORK.

ANDERSON & CO.'S REGISTERED

LACTOMALTINE

Supplied regularly to the Royal Hospitals for Sick Children, Edinburgh & Glasgow.

THE PERFECT SUBSTITUTE FOR COD LIVER OIL.

Readily taken, retained and assimilated, by the most delicate stomachs when all other foods are rejected.

ANDERSON & Co., Wholesale Manufacturing Chemists, EDINBURGH.

A BOON to NURSES!

"KING'S PATENT COOKED OATMEAL."

This FINEST SCOTCH OATMEAL is INVALUABLE IN CONFINEMENT CASES, making a cup of delicious gruel WITH ONE MINUTE'S BOILING, and saving much time and trouble.

It is thoroughly Cooked by a new patent process, which, whilst preserving its most nutritious properties, eliminates the two heating qualities contained in ordinary Groats or Oatmeal.

In 3d., 6d., 1s., and 3s. Tins.

Sample sent Free on Application.

ALBION FOOD MILLS, SYCAMORE ST., LONDON, E.C.

CALLARD'S DIABETIC FOODS.

FOR

Diabetes, Indigestion, Obesity, Gout.

SAMPLES FREE.

Manufacturers—

CALLARD & Co.,

65, Regent Street, W.

Important to the Medical Profession.

A SANITARY MILK SUPPLY

MESSRS. WELFORD & SONS desire to call the attention of the Medical Profession to the following important points connected with their Milk Supply, concerning which they can afford quite exceptional advantages :—

I.—They supply absolutely **FRESH MILK** from their **HOME FARMS,** situate at Willesden, and within the Metropolitan area. This can be conveyed direct to the consumer, and such a supply is of the greatest importance to Invalids and Infants brought up by hand.

II.—They have elaborated under the guidance of their Medical Officer, a complete system of **SUPERVISION** and **NOTIFICATION** of all kinds of illness occurring amongst the milkers and others near or upon any of the Farms from which they receive their supplementary supply.

Messrs. WELFORD & SONS pay a fee of **ONE GUINEA** to any of the **Medical Men in the Country** who report to them any case of illness occurring amongst the milkers and others on the farms, or any case of infectious disease occurring in neighbouring villages.

III.—Each farmer has to send Milk of the **highest possible standard** only, and furnish Messrs. WELFORD & SONS, by every Tuesday morning, a declaration signed as to the health of themselves, employes, and surrounding neighbourhood, and is liable, under conditions of agreement, for the sum of **One Hundred Pounds** sterling, for failure to notify any case of illness.

IV.—The dangers to which Milk may be exposed, during the process of cooling, from poisonous exhalations, are effectually provided against by a periodical examination of the Sanitary condition of the Dairy Farms and surroundings by their Medical Officer and Sanitary Engineer.

V.—The **Sanitary Arrangements** of the Dairies have been most carefully devised and carried out by their Sanitary Engineer, and the employes are housed in the Company's own model dwellings, and are under **strict Medical supervision.**

Alderney and Jersey Cows *kept expressly for the Nursery and Invalids.*

GOATS' AND ASSES' MILK.

Special Milk Preparations—

Fac-simile Human Milk, Koumiss, Peptonized and Sterilized Milk.

WELFORD & SONS, LIMITED,

DAIRY FARMERS,

Chief Office & Dairy, ELGIN AVENUE, MAIDA VALE, W.

Superintending Medical Officer—SIDNEY MARTIN, Esq., M.D., F.R.C.P.
Inspector of Farms—EDW. F. WILLOUGHBY, Esq., M.D. Lond., San. Sci. Cert. Camb.
Medical Officer for Employes—G. GWYNNE BIRD, Esq., M.R.C.S.
Analyst—A. W. STOKES, Esq., F.I.C., F.C.S.
Veterinary Staff—Messrs. WOODGER, SEWELL & CASTLE, M.R.C.V.S.

BRANCH DAIRIES IN ALL PARTS OF LONDON.

Telegrams—"WELFORDS, LONDON." Telephone No. 7107.

SYRUP HYPOPHOSPH. Co.

LORIMER'S.

½-lb. bottles, unstamped to the Profession - - 21/- doz.
1-lb. bottles, ditto- - 36/- „
Winch. Quarts - - - 2/6 lb.

Is not a quack preparation or secret nostrum; the formula is printed on every label.

The formula is original, founded upon scientific principles, and has stood the test of practical experience. There is no other preparation of the Hypophosphites which contains so large a proportion (about six grains to the fluid drachm) of the salts employed.

All its constitutents are in perfect and permanent solution, the last dose being identical, under all circumstances, with the first. There is consequently no possibility of danger from the precipitation of Strychnine, as is the case with preparations that require shaking to distribute the dose.

It is neutral, or very slightly alkaline, and can therefore be taken without ill effect by persons afflicted with sensitive stomachs, which would probably reject acid or strongly alkaline preparations.

Other preparations of similar name are either strongly acid, of unknown composition (varying from half to three grains Hypophosphites to the drachm), or **deposit their active ingredients on standing;** *many* have all these faults.

CAUTION.

As we have had several cases brought under our notice where inefficient imitations have been dispensed instead of our Syrup, causing much disappointment and annoyance, Physicians will oblige by writing, "Syr. Hypophosph. Co.: (Lorimer)."

LORIMER & Co., BRITANNIA ROW, ISLINGTON, LONDON, N.

Protected by Her Majesty's

Royal Letters Patent.

IODISED OIL.

(OLEUM IODI.)

FOR OUTWARD APPLICATION ONLY.

USES.

In the early stage of **PHTHISIS, BRONCHITIS, COUGHS,** and **OTHER CHEST AFFECTIONS;** also in **CHRONIC RHEUMATISM** and **ENLARGED JOINTS,** and in many **SCROFULOUS AFFECTIONS,** especially Enlargement and Induration of the Cervical Glands. *Iodised Oil, unlike other preparations of Iodine, does not stain the skin or burn it.*

COMPOSITION.

Iodised Oil is a combination of Iodine, the component parts of a vegetable oil and water It is a perfectly bland, neutral, and non-irritant preparation, of uniform consistence, and remains free from deposit. Each fluid ounce represents ten grains of pure Iodine. When necessary, the strength can be increased (by the addition of Tincture of Iodine); or diminished by the addition of water.

MODE OF APPLICATION.

The affected part is to be washed with tepid water (the washing to be repeated before each application), and the Iodised Oil to be briskly rubbed on by the palm of the hand until it disappears.

ADVANTAGES.

It is readily absorbed. Does not stain the skin. May be applied to the most delicate skin without irritation.

Iodised Oil is vastly superior to other Iodine Preparations, and especially compares advantageously with the colourless Iodines, so often preferred by ladies, as like them it does not discolour the skin, and yet is not ineffectual, as they are often suspected of being.

The following Testimonials are selected from some hundreds in our possession, received from **Medical Men in Practice;** the original letters may be seen at our offices, as in deference to the usages of the Profession, we withhold the writer's names.

GLASGOW, *February 4th*, 1889.

"I had it for a relative of my own, who has suffered for the last *seven* years with **Rheumatism,** and now he can take off and put on his own clothes, a thing he has never been able to do since his trouble began. I am positive the 'Iodised Oil' has done that which all the other Anti-Rheumatic remedies failed to do." M.B., &c.

GLASGOW, *January 24th*, 1888.

"It is of great use in **Chronic Rheumatism,** in relieving the swelling which takes place in the tissues around the joints, and also in Enlarged Glands of a scrofulous nature, where it acts as a deobstruent in a thorough and reliable manner." M.B.C.M.

"After a month's trial I can certify as to its successful use in **Chronic Rheumatism,** also in Enlarged Glands of a scrofulous nature." M.B., C.M.

"Has been submitted to careful trial in **Chronic Rheumatism** . . . and the results have been very satisfactory." M.D.

DUNSTABLE, *August 18th*, 1888.

"Acted well in two cases of **Chronic Bronchitis.** I look upon it as far superior to any other Iodine preparation."

"I found it very useful in a case of **Bronchitis."** M.D.

"Great benefit in **Rheumatic (Chronic) Affections of the Finger and Knee Joints,** producing rapid absorption and relief from pain." M.D.

"A gentleman, who had **Sprained his Leg at Tennis,** could not bear Iodine in any of its preparations before he used yours. The pain and discoloration soon vanished after using it." M.D.

In Bottles of about 16 ounces, 6/- each for Dispensing.

LORIMER & Co., BRITANNIA ROW, ISLINGTON, LONDON, N.

LORIMER'S COCA WINE

Operates as a Nerve Stimulant and muscular Tonic, much used in relieving fatigue from excessive mental and physical exertion, and where a general toning or strengthening of the system is needed.

Useful in various disturbances of the digestive organs.

Prepared from Coca Leaves (Erythroxylon Cocæ).

As an ordinary restorative it should be taken two or three times a day in wine-glassful doses.

CAUTION.—In order to avoid the substitution of imitations, often worthless, and consequently disappointing in effect, the Medical Profession are respectfully requested to specify "Vin Coca (Lorimer's)" when prescribing.

Always uniform and reliable.

A RETIRED AGED GENTLEMAN WRITES US :—

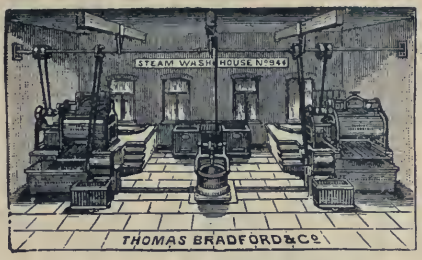
"I was led to try **Lorimer's Coca Wine**, and the effect was simply marvellous. My pulse rose to its old rate of 64, in a few days my appetite returned, and I have not known fatigue since, though out in my garden seven or eight hours every day. In fact, I am stronger now than I have been during the past five years, and the blessing I feel it . . . no tongue can tell.

"My whole frame thrills with gratitude."

Supplied to the Profession in Imperial Pint Bottles at 29/- per Dozen net.

LORIMER & Co., BRITANNIA ROW, ISLINGTON, LONDON, N.,

Will be pleased to supply Samples to Members of the Profession, free on application.



BRADFORD'S

Laundry Installations

FOR

General Hospitals and Workhouse Infirmaries.

Fever and other Infectious Hospitals.

Cottage Hospitals and School and College Sanatoriums.

Children's, Incurables', Ophthalmic, and other Special Hospitals.

Convalescent Hospitals and Homes.

Lunatic Asylums, Public and Private.

TO THOSE INTERESTED IN THE PLANNING OR MANAGEMENT OF ANY OF THE ABOVE-MENTIONED INSTITUTIONS:—We are prepared at all times to furnish promptly reliable Preliminary Information, Special Illustrated Catalogues, Details and Estimates of Costs for Complete Laundry Plant, or the remodelling or Extension of existing Laundries, in accordance with the best modern engineering and sanitary practice.

References to the Laundries in connection with the most important Hospitals, Asylums, and Infirmaries in Great Britain.

THOMAS BRADFORD & CO.,

Laundry and General Engineers,

140 to 143, High Holborn, LONDON; Crescent Iron Works, SALFORD;

Also LIVERPOOL and MANCHESTER.

"Liquor Carbonis Detergens"

"A valuable addition to our list of Skin Remedies" LANCET.

"We can affirm its value as a Detergent agent and as an article of great utility" BRITISH MEDICAL JOURNAL

"One of the best Tarry Lotions" PRACTITIONER.

"We have more than once called attention to the value of this remedy in Chronic Eczema" MEDICAL TIMES & GAZETTE.

Wright's Coal Tar Soap

"Most effective in Skin Diseases" LANCET.

"The only true antiseptic Soap" BRITISH MEDICAL JOURNAL

THE ORIGINAL AND ONLY GENUINE COAL TAR SOAP

THIRTY YEARS REPUTATION.

PROPRIETORS AND MANUFACTURERS.

Wright Layman & Umney, (late W. V. Wright & Co.) Southwark, London, S.E.

BINDING SLIP: MAY 20 1972

R
101
M4
1894
Biological
& Medical
Serials

Medical annual

PLEASE DO NOT REMOVE
CARDS OR SLIPS FROM THIS POCKET

UNIVERSITY OF TORONTO LIBRARY